

Service Manual

PCM Digital Piano

SX-PX66/PX66M

(M), (MC), (XM), (EN), (EH), (EF), (EZ), (EW),
(EP), (EK), (XL), (XR), (XS), (XD), (X)

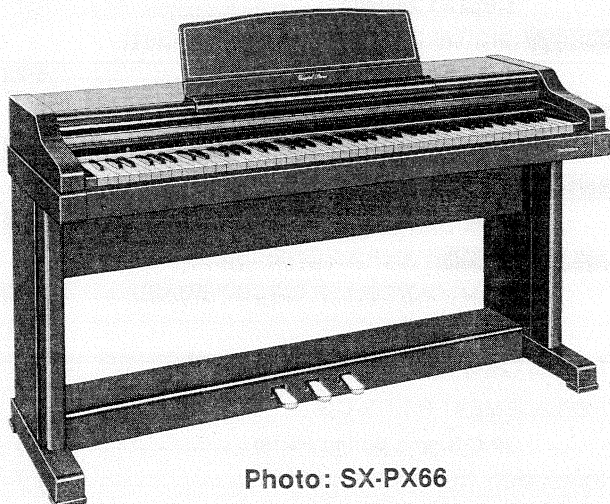


Photo: SX-PX66

AREAS

(M): U.S.A.	(EP): Spain
(MC): Canada	(EK): the United Kingdom
(XM): Mexico	(XL): New Zealand
(EN): Norway, Sweden, Denmark, Finland	(XR): Australia
(EH): Holland	(XS): Malaysia, Singapore, South Africa
(EF): France, Austria, Italy, Belgium	(XD): Saudi Arabia
(EZ): Germany	(X): the Middle East, Indonesia, Hong Kong, the Philippines, Thailand, Taiwan
(EW): Switzerland	

Specifications

CABINET	SX-PX66: BLACK, SX-PX66M: WALNUT
KEYBOARD	88 KEYS [32 NOTES POLYPHONIC (A maximum of 16 simultaneously pressed keys can be input.)]
SOUND	GRAND PIANO, UPRIGHT PIANO, E. GRAND, E PIANO 1, 2, HARPSI, VIBES, GUITAR, STRINGS, PIPE ORGAN
BRILLIANCE	MELLOW, NORMAL, BRIGHT (7 STEP)
DIGITAL CELESTE	○
DIGITAL REVERB	PEDAL REVERB, ROOM, STAGE, HALL
TRANPOSE	UP (+C [#] , +D, +D [#] , +E, +F, +F [#]) DOWN (-B, -A [#] , -A, -G [#] , -G)
MIDI	PROGRAM CHANGE
MODE SET	MIDI ON.....OMNI ON, PROGRAM CHANGE, EFFECT, PEDAL OTHERS.....MIN RANGE, PIANO TUNING
TERMINALS	MIDI.....IN, OUT, THRU AUX IN input level 500mV 33KΩ, R/R+L, L LINE OUT output level 1.5V 600Ω, R/R+L, L OTHERS.....PEDAL IN, HEADPHONES JACK, AC IN
OTHERS	POWER SW, MAIN VOLUME, TUNE, INITIAL KEY
OUTPUT	50W × 2
SPEAKERS	16cm (6-5/16") × 2, 6.5cm (2-9/16") × 2, [13cm × 6cm (5-1/8" × 2-3/8")] × 2
POWER REQUIREMENT	225W, 145W (NORTH AMERICA) AC 120/220/240V 50/60Hz, AC 120V 60Hz (NORTH AMERICA AND MEXICO), AC 220V 50/60Hz (HOLLAND)
DIMENSIONS (W × H × D)	142.4cm × 82.1cm × 50.6cm (56-1/16" × 33" × 19-29/32")
NET WEIGHT	71.0Kg (156.5 lbs.)
ACCESSORIES	STAND, MUSIC RACK, AC CORD

* Specifications are subject to change without notice for further improvement.

Technics

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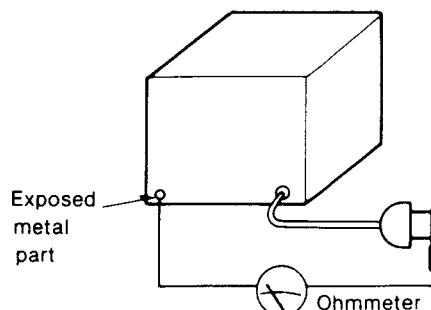
SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

• Safety Precaution

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

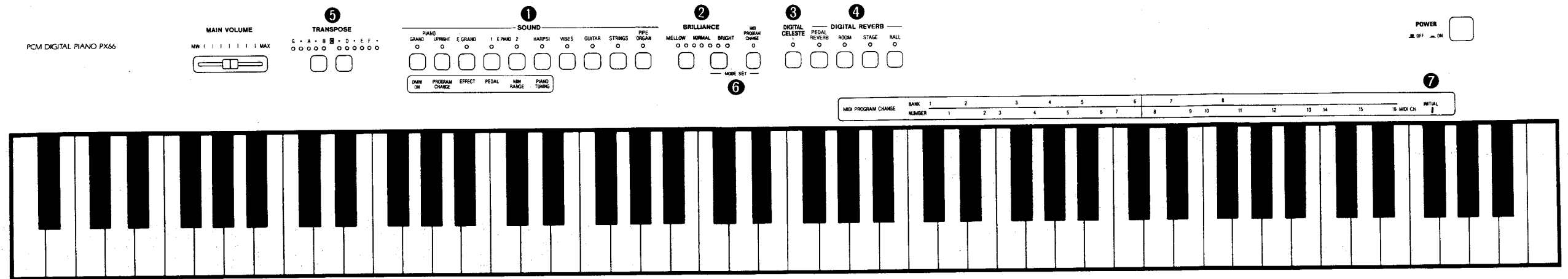
• Insulation Resistance Test

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screw heads, connectors, control shafts, handle brackets, etc..
Measurements should range from 4 MΩ to infinity to all exposed parts.



Resistance = 4 MΩ to ∞

ARRANGEMENT OF CONTROL PANEL



BASIC FUNCTIONS

1 SOUND

Press one of the SOUND buttons to select the desired sound.

Each sound features Touch Response, which increases the volume and changes the timbre as the velocity-sensitive keyboard is played harder.

The tones from a maximum of 16 simultaneously pressed keys will sound, and then using the sustain pedal or sostenuto pedal, up to 32 notes can sound at one time.

- For the VIBES sound, up to 15 notes can sound at one time.
- The sounds can be mixed when two SOUND buttons are pressed simultaneously.

2 BRILLIANCE

The BRILLIANCE allows you to select the brightness of the sound from 7 settings.

Pressing the right button increases the brightness; when the left button is pressed, the sound becomes softer.

Press both buttons at the same time to return the brightness to the normal level.

3 DIGITAL CELESTE

A celeste effect can be applied to give the sound greater depth.

4 DIGITAL REVERB

DIGITAL REVERB applies a reverberation effect to the sound.

Select from four echo types—PEDAL REVERB, ROOM, STAGE and HALL.

- When the PEDAL REVERB button is on, a slight reverb effect is active. When the sustain pedal is pressed, the reverb effect is stronger.

5 TRANSPOSE

The TRANSPOSE control is used to shift the tuning (key) of the entire instrument in semitone steps across an entire octave. Adjust the tuning by moving the slide control from the normal key of C.

6 MODE SET, 7 INTIAL KEY

When the MODE SET buttons are on, the following two modes can be set.

- If the INTIAL KEY is pressed at this time, the settings of the buttons, etc. will return to the initialized settings made by the manufacturer.

1. MIN RANGE

This Button changes Keyboard touch response sensitivity only for piano sound selections.

It will not produce sound if a key is pressed very slowly when turned ON. (Initial setting is ON)

2. PIANO TUNING

When this button is on, the sound is a little lower for low notes as on a regular piano. When it is off, the tuning is even.

8 SUSTAIN PEDAL

When a key is released while this pedal is depressed, the sound is sustained so that it lingers and slowly fades out.

- The right pedal is a four-stage pedal, and the length of the sustain is controlled by the degree to which the pedal is depressed.

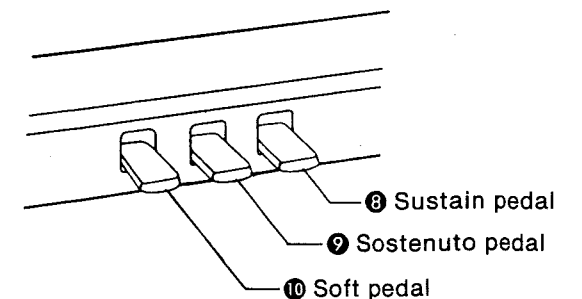
9 SOSTENUTO PEDAL

The middle pedal is used as a sostenuto pedal. If the pedal is pressed while the keys are pressed, a sustain effect is applied to those notes only.

- For the STRINGS sound and the PIPE ORGAN sound, the notes sound as long as the pedal is pressed.

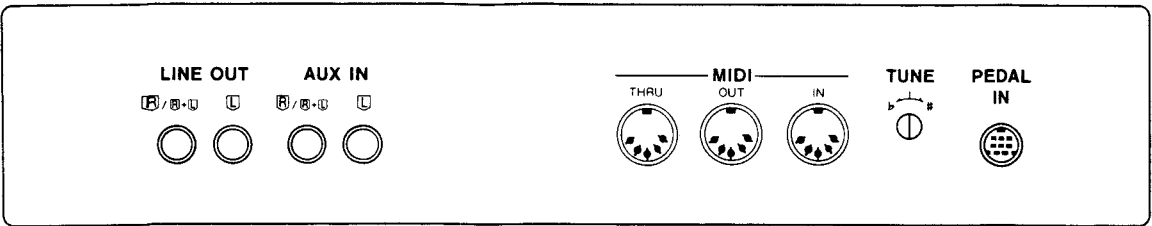
10 SOFT PEDAL

When the pedal is depressed, the sound is softer and the volume is lower.



CONNECTION TERMINALS

(On the rear panel)



TUNE

During an ensemble performance with other instruments, fine adjustments of pitch can be made using this knob.

PEDAL IN

Connect the cord from the included stand to this terminal.

AUX IN (input level 500mV, 33KΩ)

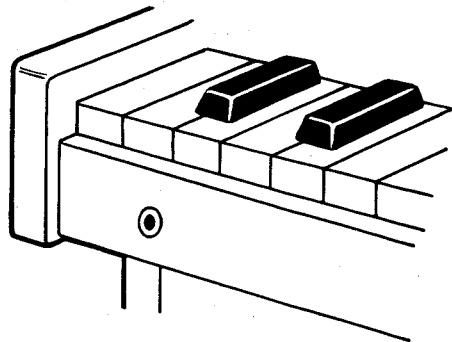
Other instruments such as a rhythm machine or sound module can be connected to the piano so that the sound is output from the piano. To receive monaural sound, connect instruments to the R/R+L terminal.

LINE OUT (output level 1.5V 600Ω)

By plugging into a Technics Tone Cabinet or a high-power amplifier, the sound can be reproduced at high volume. (Use the R/R+L terminal when outputting monaural sound.)

PHONES

For silent practice headphones may be used. When plugged in, the speaker system is automatically switched off, and sound is heard only through the headphones.



MIDI (Musical Instrument Digital Interface)

MIDI is standard specification that enables connection to equipment such as synthesizers and personal computers. Data transmission and reception are possible between the Technics Digital Piano instruments provided with MIDI terminals.

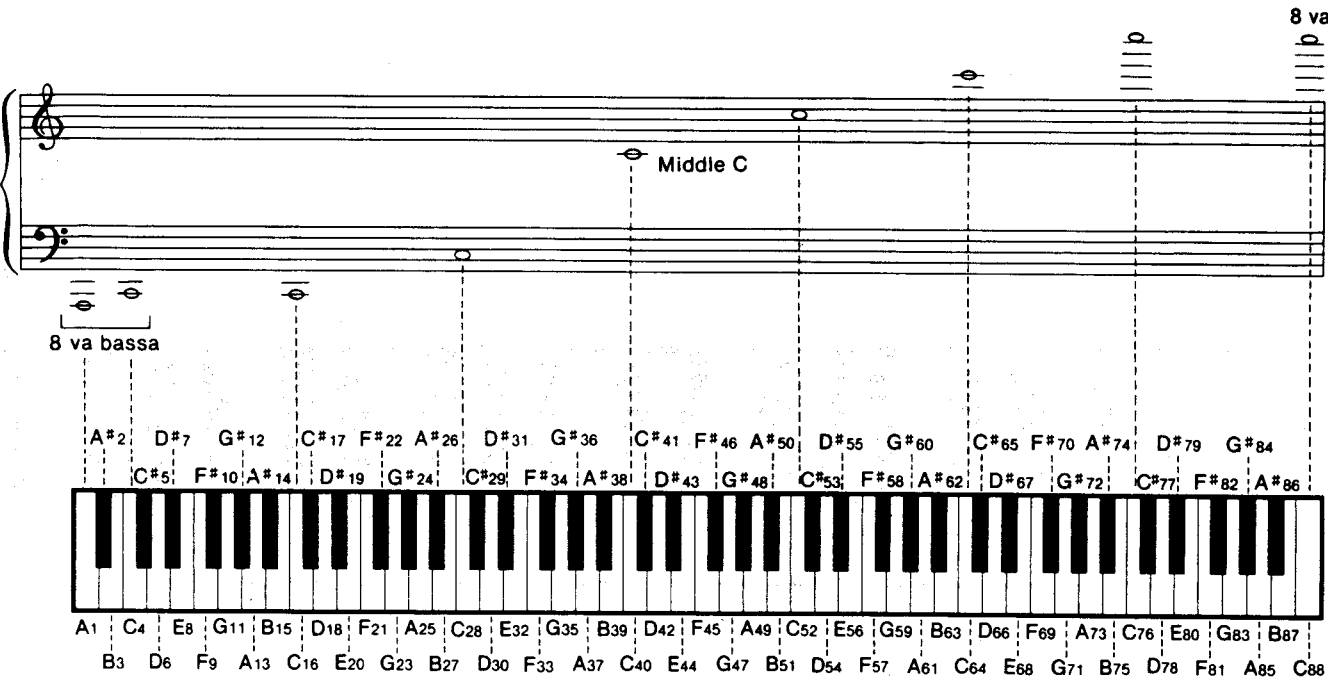
IN: The terminal that receives data from external equipment.

OUT: The terminal that transmits data from the piano to external equipment.

THRU: The terminal that transfers data from the IN terminal directly to other equipment.

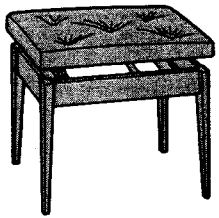
•Use a 5-pin DIN cord (less than 15m long) for these connections.

KEYBOARD RANGES

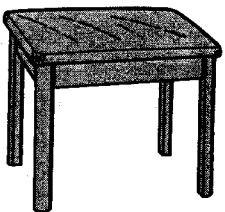


OPTIONS

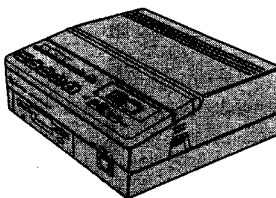
PRODUCTS FOR SX-PX66



SZ-CP1
Bench

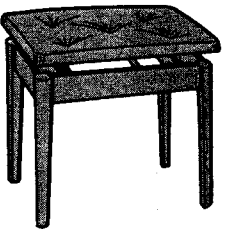


SZ-CP3
Bench

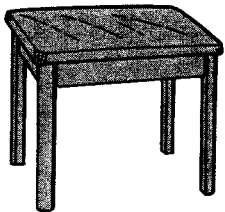


SY-MQ8
MIDI Sequencer

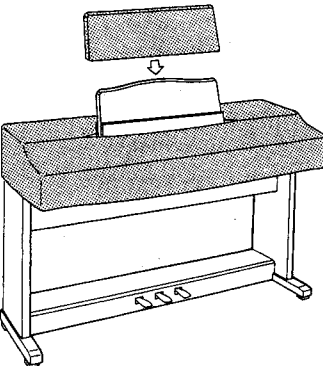
PRODUCTS FOR SX-PX66M



SZ-CP4M
Bench



SZ-CP3M
Bench



SZ-DC2
Dust Cover

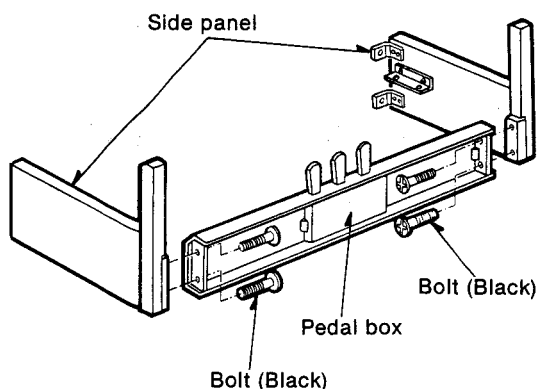
INITIAL SETTING

Initial setting function will be used to return to the original factory setting mode, reset the customer setting and irregular operations with following methodes.

- 1 Press both MODE SET buttons at the same time. The indicators flash slowly.
- 2 Press the INITIAL key.

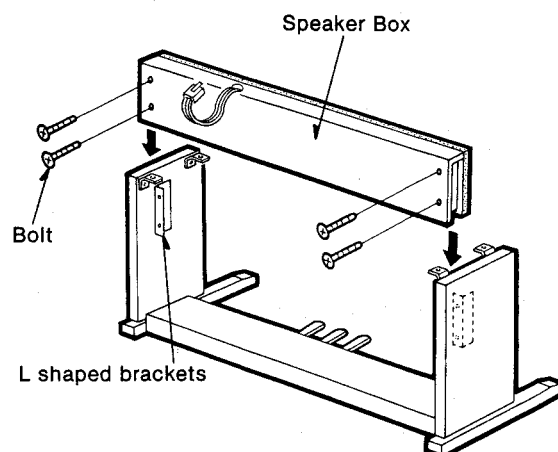
HOW TO ASSEMBLE THE PIANO

- 1** Build the side panels and the pedal box using the 4 black bolts.



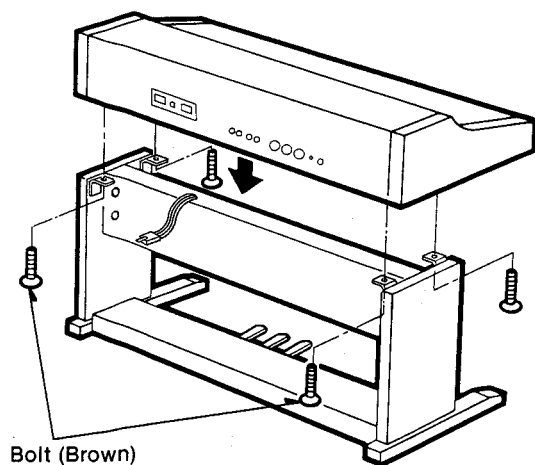
[Fig. 1]

- 2** Place the stand upright and mount the speaker box onto the L shaped brackets with 4 bolts. (Black bolts for model SX-PX66, Brown bolts for model SX-PX66M)



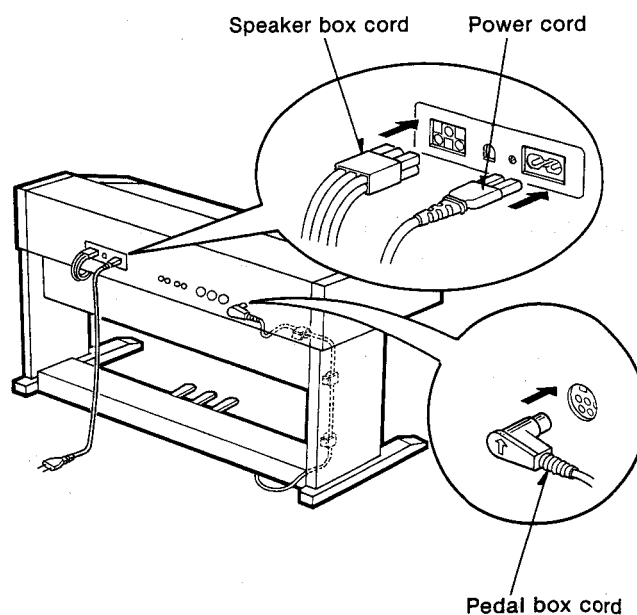
[Fig. 2]

- 3** Place the piano unit on the stand and secure it to the stand with 4 brown bolts.



[Fig. 3]

- 4** Connect the pedal box cord and speaker box cord to the each sockets located rear of the piano unit as shown below.

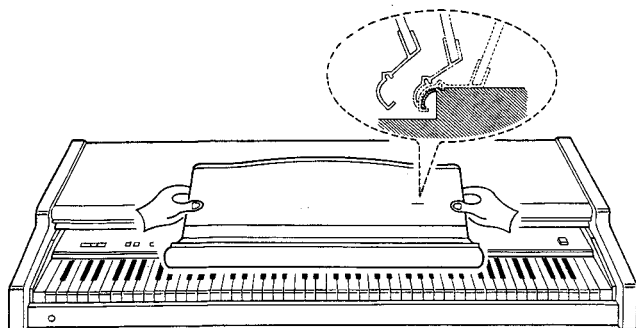


[Fig. 4]

DISASSEMBLY INSTRUCTIONS

1 Removing the Music Rack. (Fig. 5)

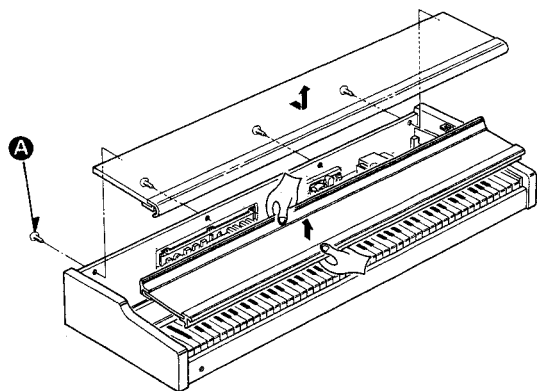
Remove the Music Rack as shown in Figure 5.



[Fig. 5]

2 Removing the Top Cover. (Fig. 6)

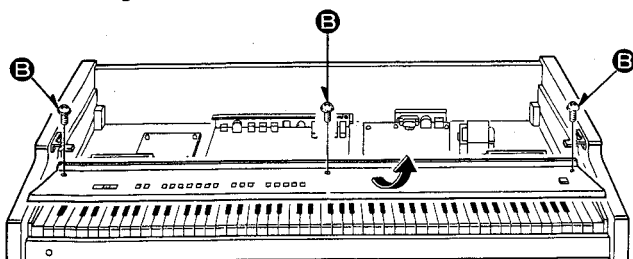
1. Remove the Top cover holding screws. (A 4 pcs.)
2. Slide the top cover forward and lift up. (As shown by the arrow.)



[Fig. 6]

4 Removing the Control Panel. (Fig. 7)

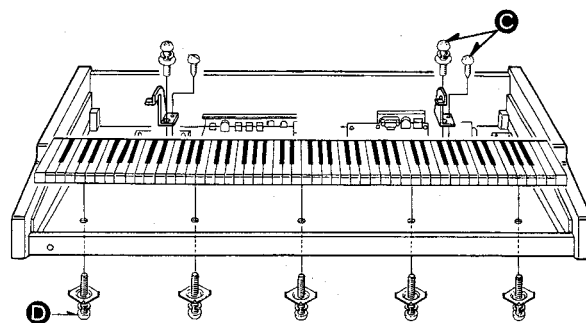
1. Remove the Top Cover. (See Step 2)
2. Remove the control panel holding screws. (B 3 pcs.)
3. Remove the control panel as shown in Figure 7.



[Fig. 7]

5 Removing the Keyboard assembly. (Fig. 8)

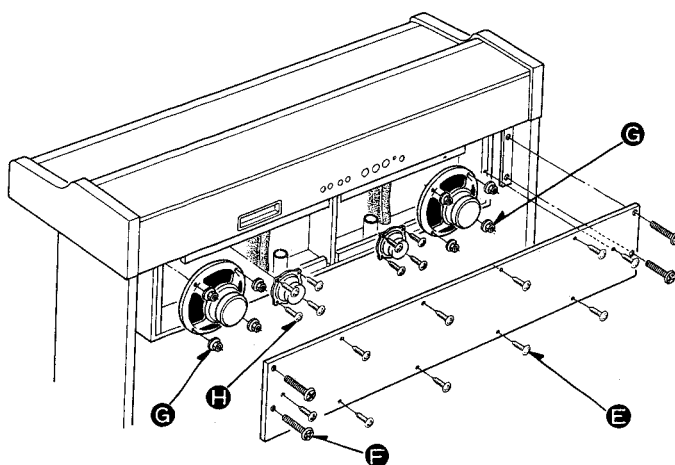
1. Remove the Top Cover. (See Step 2)
2. Remove the metal fittings holding screws. (C 4 pcs.)
3. Remove the keyboard ass'y holding screws located on the bottom of the cabinet. (D 5 pcs.)



[Fig. 8]

6 Removing the Speakers. (Fig. 9)

1. Remove the rear board of the speaker box mounting screws. (E 10 pcs. and F 4 pcs.)
• Beware to fall off the speaker box.
Since the speaker box is became free mounting from L-bracket of stand.
2. Remove the 16cm speakers mounting nuts. (G 4 pcs. each)
3. Remove the 6.5cm speakers mounting screws. (H 4 pcs. each)



[Fig. 9]

7 Key (s)

Disassembly: (Fig. 10)

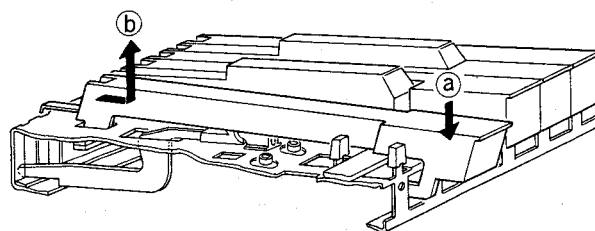
1. Remove the Keyboard from the cabinet.
(See Step 5)
2. To release the key claw.
 - Ⓐ Press the front of the key downward slightly.
 - Ⓑ Press the rear of the key forward gently.
3. To remove the key lift as shown in Figure 10.

NOTE:

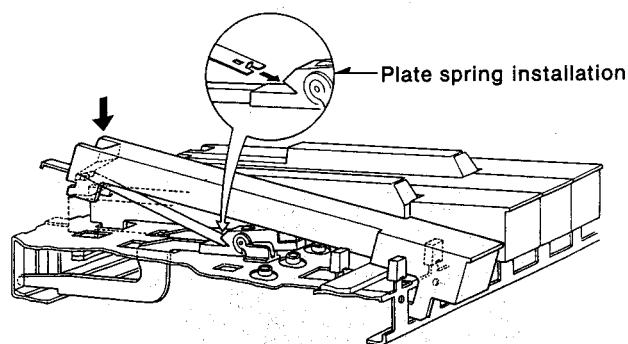
- The key claw can be broken easily. Do not apply undue force. Should a key claw break it can still be used, however, a replacement is recommended.
- If a black key is to be replaced it is necessary to remove both adjacent white keys.

Assembly: (Fig. 11)

1. Insert the front part of the key into the chassis.
2. Insert the plate spring into the hammer notch as shown in Figure 11.
3. While slowly lowering the key into the chassis, insert the plate spring into the notch at rear of the key.
4. Carefully insert the key into the opening in the chassis and slide the key towards the rear to lock it in place.



[Fig. 10]



[Fig. 11]

8 Removing the printed circuit boards. (Fig. 12)

MAIN P.C.B.

1. Remove the Top Cover. (See Step 2)
2. Remove the MAIN P.C.B. mounting screws on the rear panel. (Ⓜ 2pcs.)
3. Release the 2 claws of P.C.B. holder.

DRV P.C.B.

1. Remove the Top Cover. (See Step 2)
2. Release the 4 claws of P.C.B. holder.

CP P.C.B.

1. Remove the Control panel. (See Step 4)
2. Remove the CP P.C.B. mounting screws. (Ⓜ 7pcs.)

AS P.C.B.

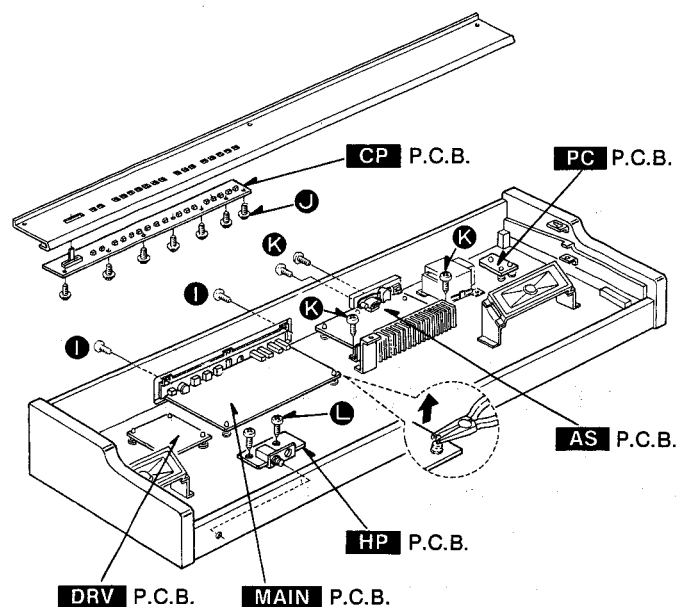
1. Remove the Top Cover. (See Step 2)
2. Remove the AS P.C.B. mounting screws on the rear panel and P.C.B. (Ⓚ 4pcs.)
3. Release the 3 claws of P.C.B. holder.

PC P.C.B.

1. Remove the Top Cover. (See Step 2)
2. Release the 3 claws of P.C.B. holder.

HP P.C.B.

1. Remove the Keyboard assembly. (See Step 5)
2. Remove the HP P.C.B. mounting screws. (Ⓛ 2pcs.)



[Fig. 12]

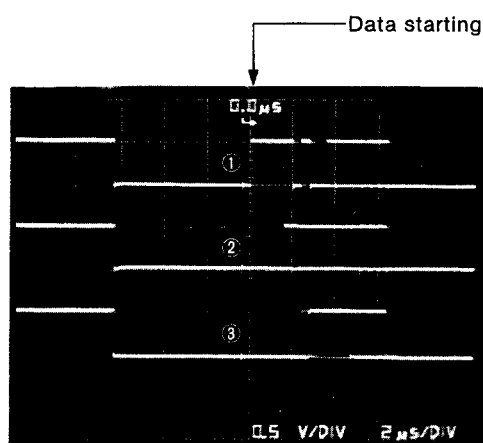
MEASUREMENTS AND ADJUSTMENTS

■ Measuring Equipment

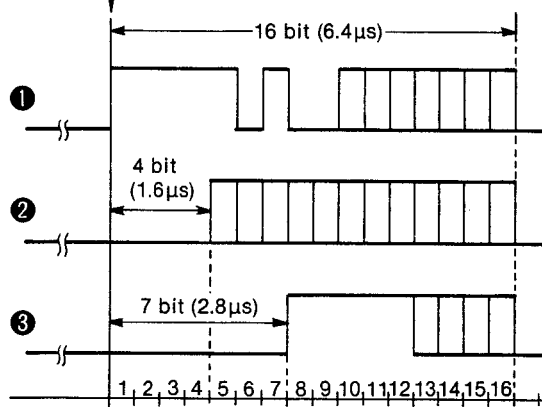
- Oscilloscope 20 MHz, 10: 1 probe/1: 1 probe

ADJUSTMENT	MEASURING CONDITIONS	EQUIPMENT	ADJUSTMENT P.C.B.	ADJ. POINT	CONNECT METER TO	METER READING
DRV bias	any position	Oscilloscope	DRV P.C.B.	VR1	Check Point ⑫ ⑬	Photo-A Fig. 13

1. Connect the oscilloscope channel 1 to DRV P.C.B. check point ⑫ and connect the oscilloscope external trigger in to DRV P.C.B. check point ⑬. (Set the oscilloscope CH1 triggering with EXT in)
2. Turn the VR1 on the DRV P.C.B. to full clockwise and set the data strating point to the oscilloscope division scale for ease adjustment for next procedure. (See photo A-①)
3. Confirm the first 4 bits (or 5 bits) are low when turn the VR1 to full counter-clockwise. (See photo A-②, Fig. 13-②)
4. Turn the VR1 clockwise gradually and make first 7 bits (2.8μs) turn to low. (See photo A-③, Fig. 13-③)



[Photo-A]



[Fig. 13]

D/A Converter offset	any position	Oscilloscope	MAIN P.C.B.	VR2	IC13-① pin	0V±5mV
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1. Set the oscilloscope voltage division to 5mV/cm (Use 1: 1 Oscilloscope Probe) and connect oscilloscope probe to MAIN P.C.B. IC13 Pin ①.
2. Turn the VR2 to adjust the voltage to Zero.

PRECAUTIONS BEFORE SERVICEING

■ Symptoms which appear to be signs of trouble

The following changes in performance may occur in the Technics digital piano but do not indicate trouble.

Phenomenon	Remedy
No sound is produced when the keyboard is played.	No sound is produced if the MAIN VOLUME is set to MIN. Use the sliding control to set the volume to an appropriate level.
When many keys are pressed at the same time, some of the keys do not produce sound.	The tones from a maximum of 16 simultaneously pressed keys will sound, and then using the sustain pedal or sostenuto pedal, up to 32 notes can sound at one time. When two sounds are mixed, a maximum of 16 notes can be produced simultaneously. For the VIBES sound, up to 15 notes can sound at one time.

■ Precautions for measuring of the output waveforms.

1. Please set the INITIAL mode before measurement. (Refer to page I-4)
 - INITIAL mode: While holding down both MODE SET buttons, press the INITIAL key.
2. After INITIAL mode, set the measurement conditions as each check points.
3. The waveform was measured by "National Digital Storage Oscilloscope VP-5730A". Therefore the waveforms of musical tone signals shown may somewhat change due to variation of timing of triggering.
4. Since the 1/10 of the test probe is used, the indicated voltage value on bottom part of the each waveform photo is 1/10 of the actual value. (e.g. 0.2V/cm should be 2.0V/cm)

■ Important safety notice:

Components identified by $\triangle$ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

■ Symbolic Marks

The symbolic marks for resistors and capacitors which used in this circuits are classified as following TABLE-1 and TABLE-2.

1. RESISTORS

- Resistors without symbolic mark are FIXED CARBON FILM RESISTORS (ERD-type).
- All resistors are 1/4WATT, $\pm 5\%$ TOLERANCE unless otherwise designated in the schematic diagrams.

(TABLE-1)

SYMBOL	SPECIFICATION	SYMBOL	SPECIFICATION
(F)	Fixed Carbon Film Resistors "FLAME-PROOF" (ERD—F—type)	(F)	Fixed Metal Film Resistors "FLAME-PROOF" (ERX—type)
(F)	Fixed Wire Wound Resistors "FLAME-PROOF" (ERF—type)	(F)	Fuse Type Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERQ—type)
(F)	Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERG—type)	(F)	Fuse Type Fixed Carbon Film Resistors "FLAME-PROOF" (ERD2FC—type)
(G)	Fixed Metal Film Resistors (Precision and High Stability) (ERO—type)		

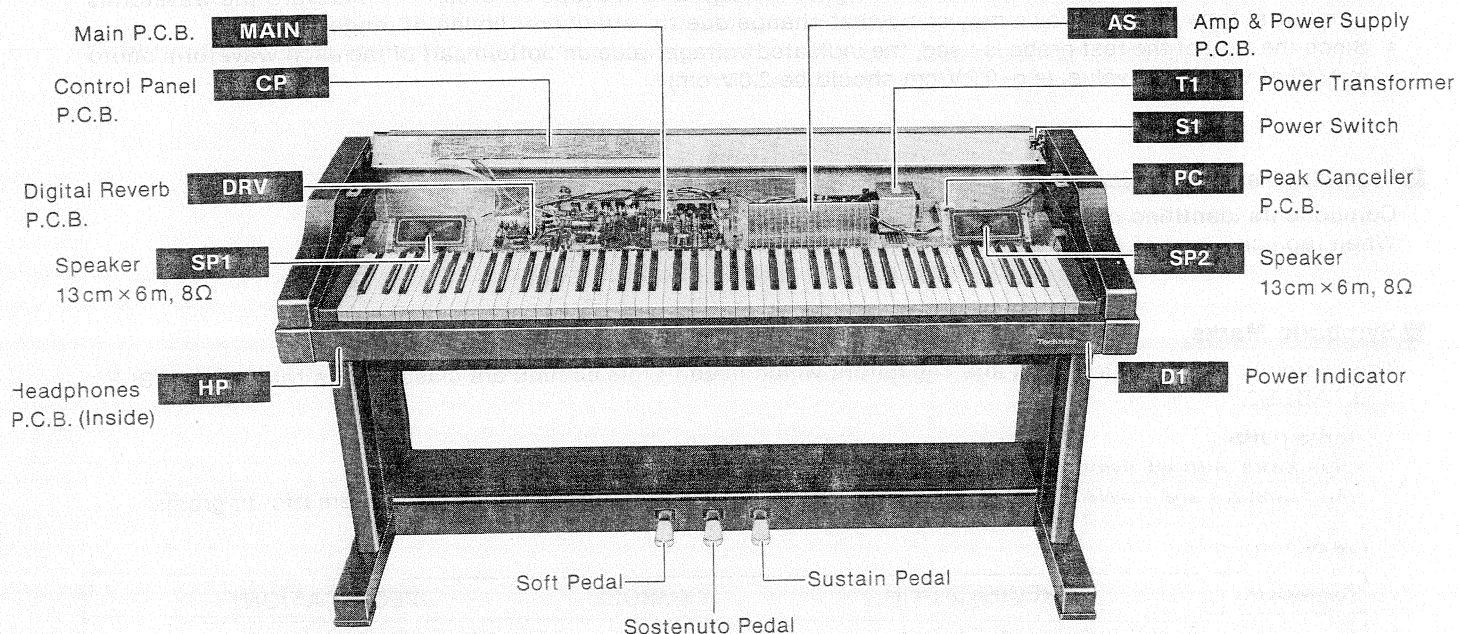
2. CAPACITORS

- Capacitors without symbolic mark are POLYESTER CAPACITORS. (ECQM-type, ECQG-type, $\pm 10\%$ Tolerance)
- Polarized capacitors without symbolic mark are Aluminum Electrolytic Capacitors. (ECEA—type, $\pm 20\%$ Tolernace)

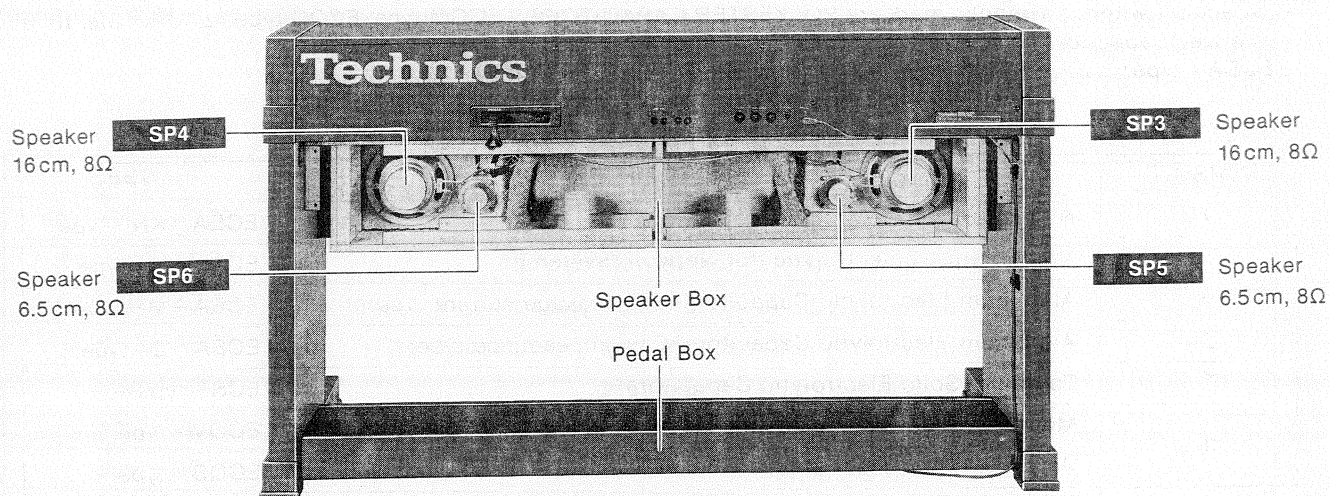
(TABLE-2)

SYMBOL	SPECIFICATION	TYPE
(N)	Non-Polarised Electrolytic Capacitors	ECEA—KN—type
(Y)	Non-Polarised Electrolytic (for Network System)	ECEA—Y—type
(MS)	Aluminum Electrolytic Capacitors (Low leakage current type)	ECEA—M—type
(Z)	Aluminum Electrolytic Capacitors (Low impeadance type)	ECEA—Z—type
(T)	Tantalum Solid Electrolytic Capacitors	ECS—type
(TF)	Metalized Plastic Film Capacitors (TF Series)	ECQV—type
	Polyester Film Capacitors	ECQB—type
O	Temperature Compensating Ceramic Capacitors	ECC—type
	High-Dielectric Constant Ceramic Capacitors	ECK—type ECR—type
	Ceramic Capacitors (Cylinder type)	ECBA—type
	Metalized Polyester Film Capacitors for Across the Line	ECQ—EW—type
	Aluminum Electrolytic Capacitors for smooting Circuit	ECES—type

PARTS LOCATION



[Photo-1]



[Photo-2]

MIDI IMPLEMENTATION CHART

[digital piano]
[SX-PX33V/SX-PX44V/SX-PX55 (M)/SX-PX66 (M)]

Table with 4 columns: Function..., Transmitted, Recognized, Remarks. Rows include Basic Channel, Mode, Note Number, Velocity, After Touch, Pitch Bender, Control Change (64, 66, 67, 93), Prog Change, System Exclusive, System Common, System Real Time, Aux Messages, and Notes.

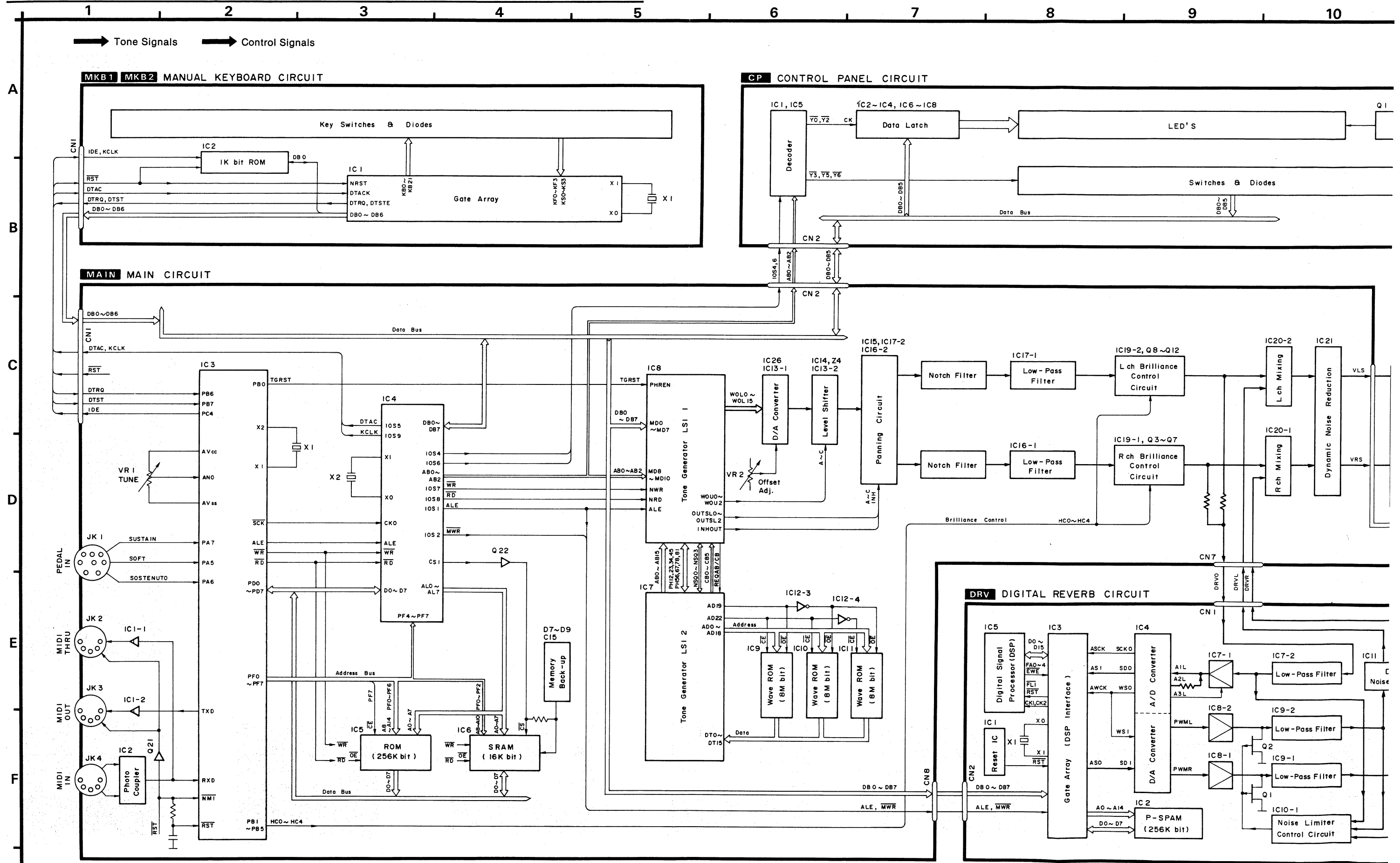
Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO
Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO
• This product adheres to MIDI specifications as published by the Japan MIDI Association.

MEMO

Handwriting practice lines for the memo section.



BLOCK DIAGRAM

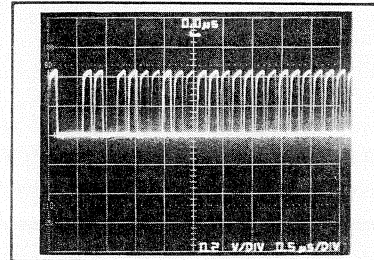




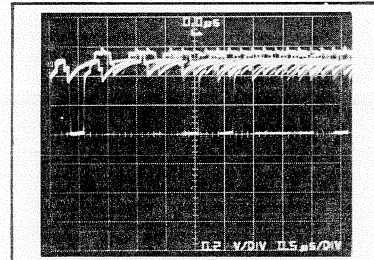
Measuring Conditions

- The tone signal output varies with the level of key pressing force. In this measurement, the waveform obtained with maximum key pressing force is shown.
- Set the initial mode before measurement.

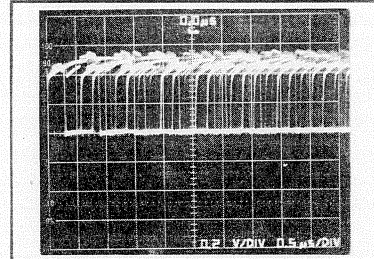
① ALE



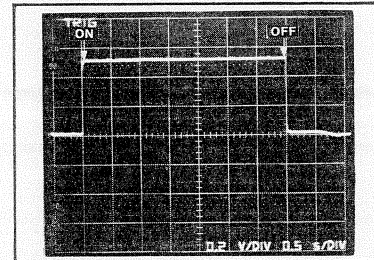
② WR



③ RD



④ RST

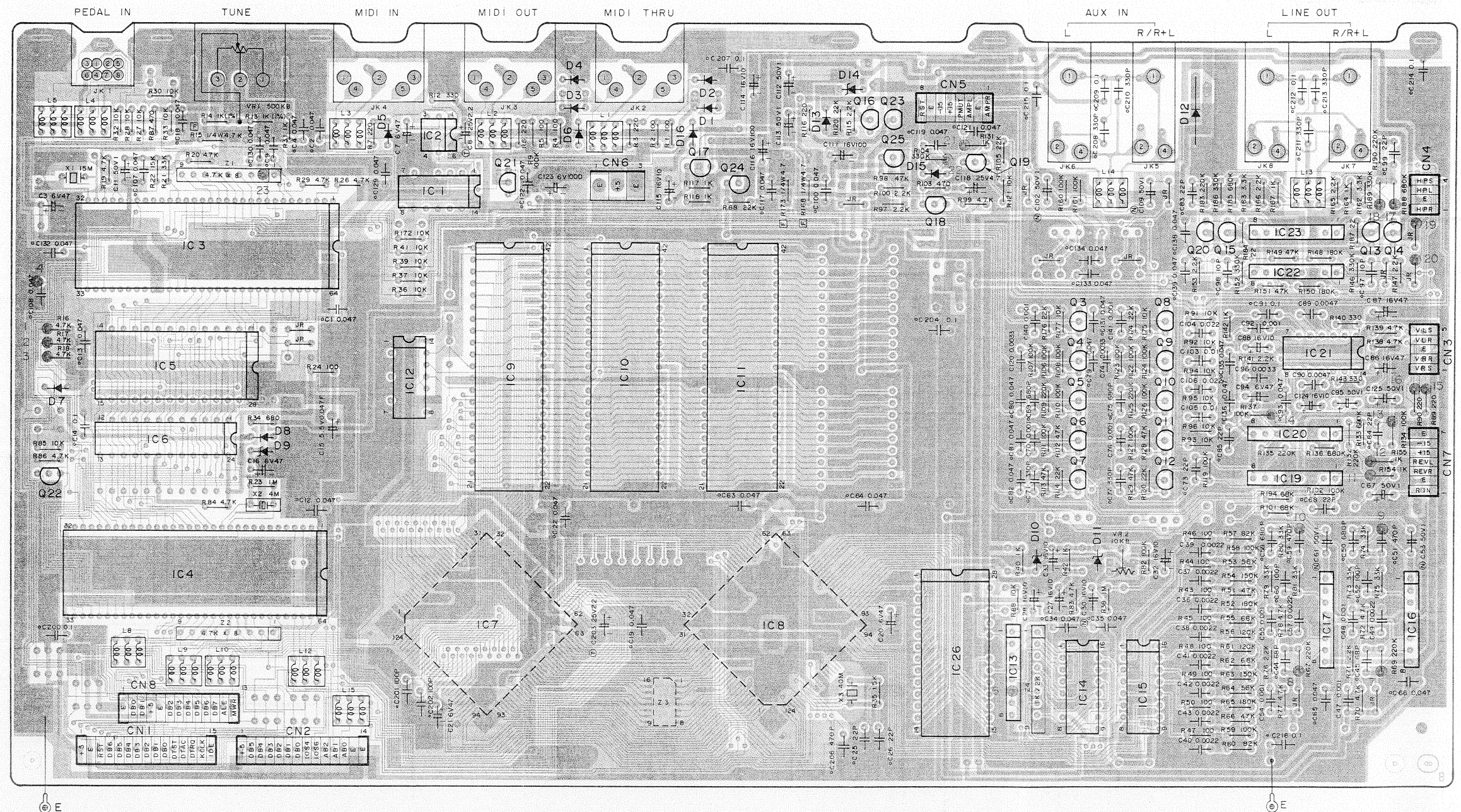


• Power SW.....ON—OFF

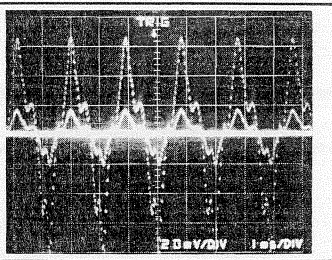
MAIN MAIN CIRCUIT BOARD

Circuit view on top of P.C.B.

SXPG203661

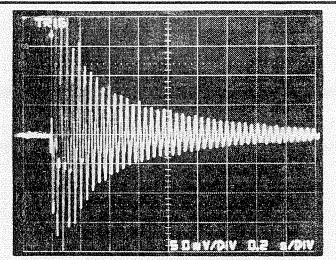


⑤



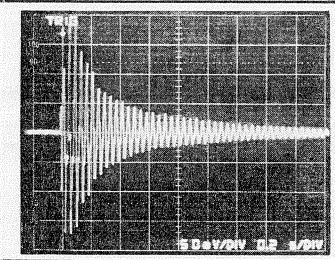
• Sound.....GRAND PIANO
• Keyboard.....C52

⑥



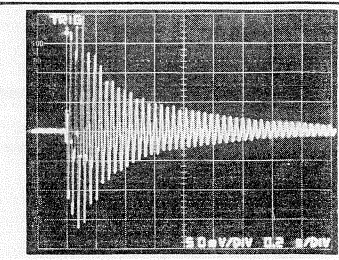
• Sound.....GRAND PIANO
• Keyboard.....C52

⑦



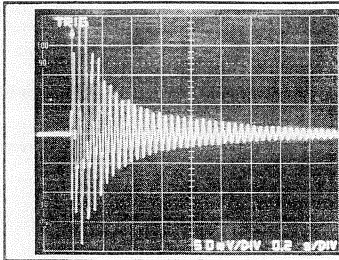
• Sound.....GRAND PIANO
• Keyboard.....C52

⑧



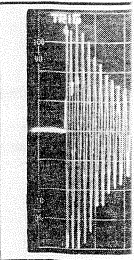
• Sound.....GRAND PIANO
• Keyboard.....C52

⑨



• Sound.....GRAND PIANO
• Keyboard.....C52

⑩



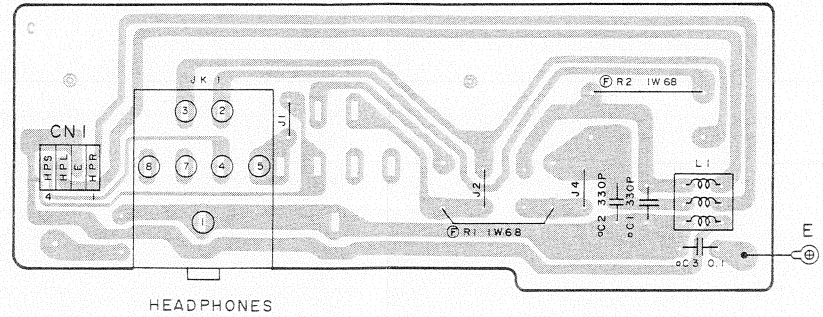
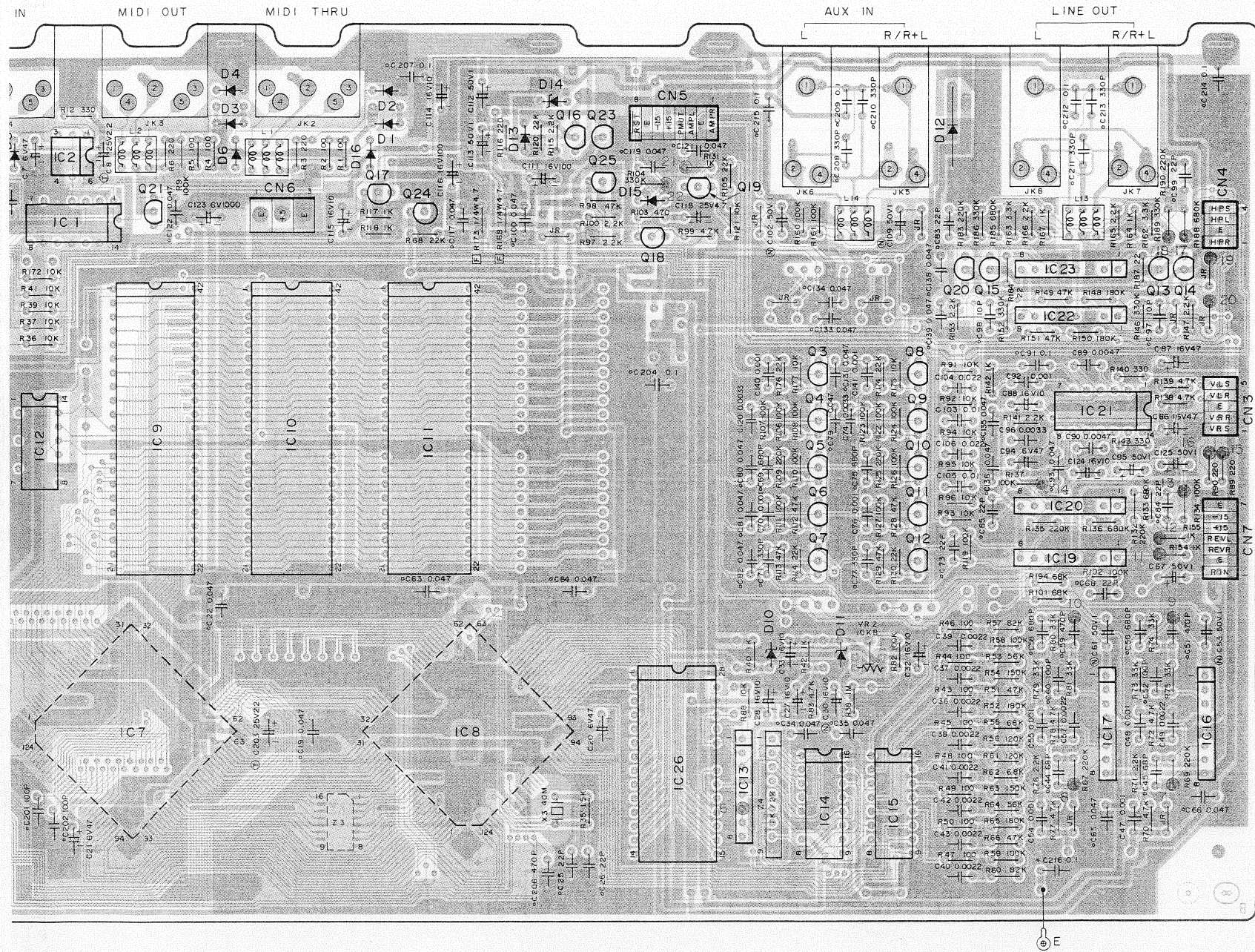
• Sound.....
• Keyboard.....

Circuit view on top of P.C.B.

SXPG203661

HP HEADPHONES CIRCUIT BOARD

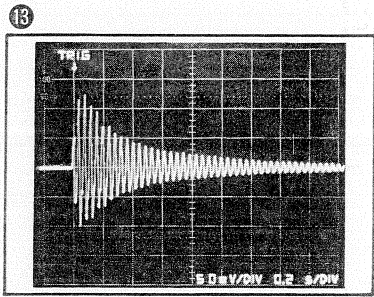
SXPG203711B



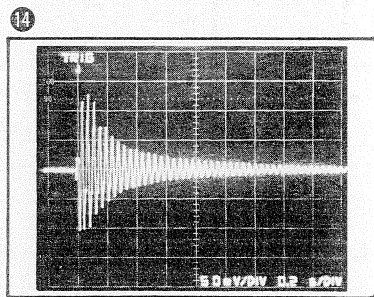
MAIN

NOTES:

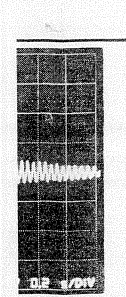
- IC'S
 - IC1: SVIGM74LS07
 - IC2: SVIGTLP513
 - IC3: SVIG7810HCW
 - IC4: SVIGM603A114
 - IC5: QSIG2PX55AX0
 - IC6: BR6116-100
 - IC7: MN73013PGD
 - IC8: MN73012PGC
 - IC9: QSIGH3C08C26
 - IC10: QSIGH3C08C45
 - IC11: QSIGU3C08015
 - IC12: SVIGM74H04
 - IC13: SVIGM5238L
 - IC14, 15: SVIGT74H4051
 - IC16, 17, 19, 20, 22, 23: SVIGM5218L
 - IC21: SVIGLM1894N
 - IC26: SVIGPCM54
- TRANSISTORS
 - Q3~12: 2SJ105GR
 - Q13, 15: 2SC3940ARS
 - Q14, 20: 2SA1534ARS
 - Q16, 18, 23: 2SC2320LFG
 - Q17, 19, 21, 24, 25: 2SA1015-GR
 - Q22: 2SC1047C
- DIODES
 - D1~8, 13, 15, 16: MA165TA5
 - D9: MA4056
 - D10, 11: MA4051MTA
 - D12: SVDGRK14S
 - D14: MA4062



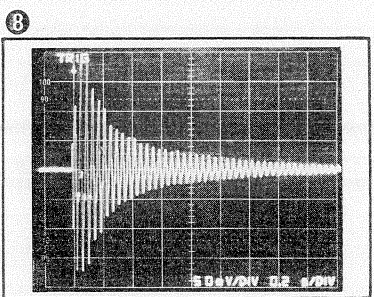
• Sound.....GRAND PIANO
• Keyboard C₅₂



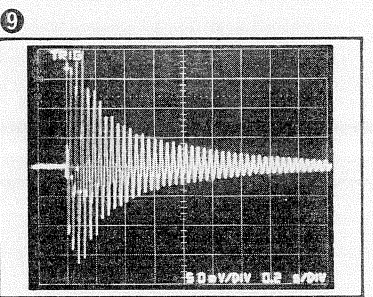
• Sound.....GRAND PIANO
• Keyboard C₅₂



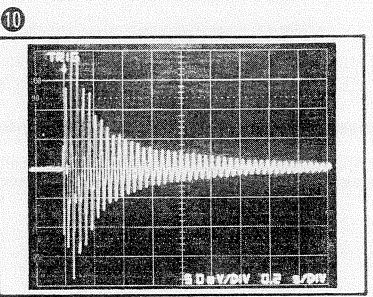
• Sound.....GRAND PIANO
• Keyboard C₅₂



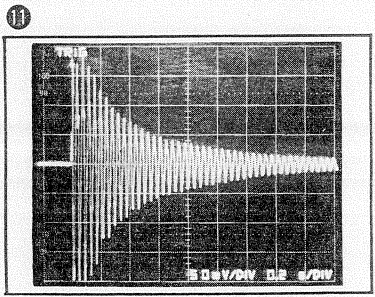
• Sound.....GRAND PIANO
• Keyboard C₅₂



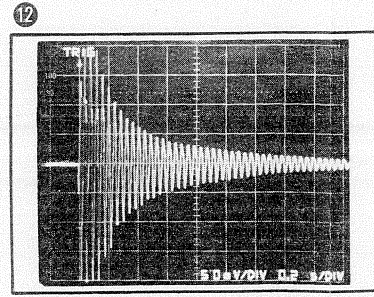
• Sound.....GRAND PIANO
• Keyboard C₅₂



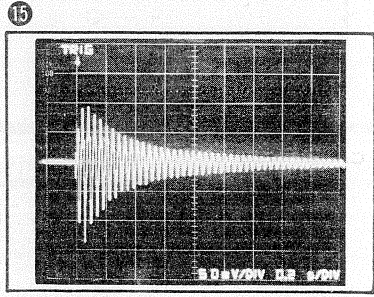
• Sound.....GRAND PIANO
• Keyboard C₅₂



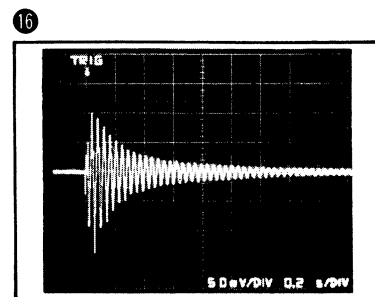
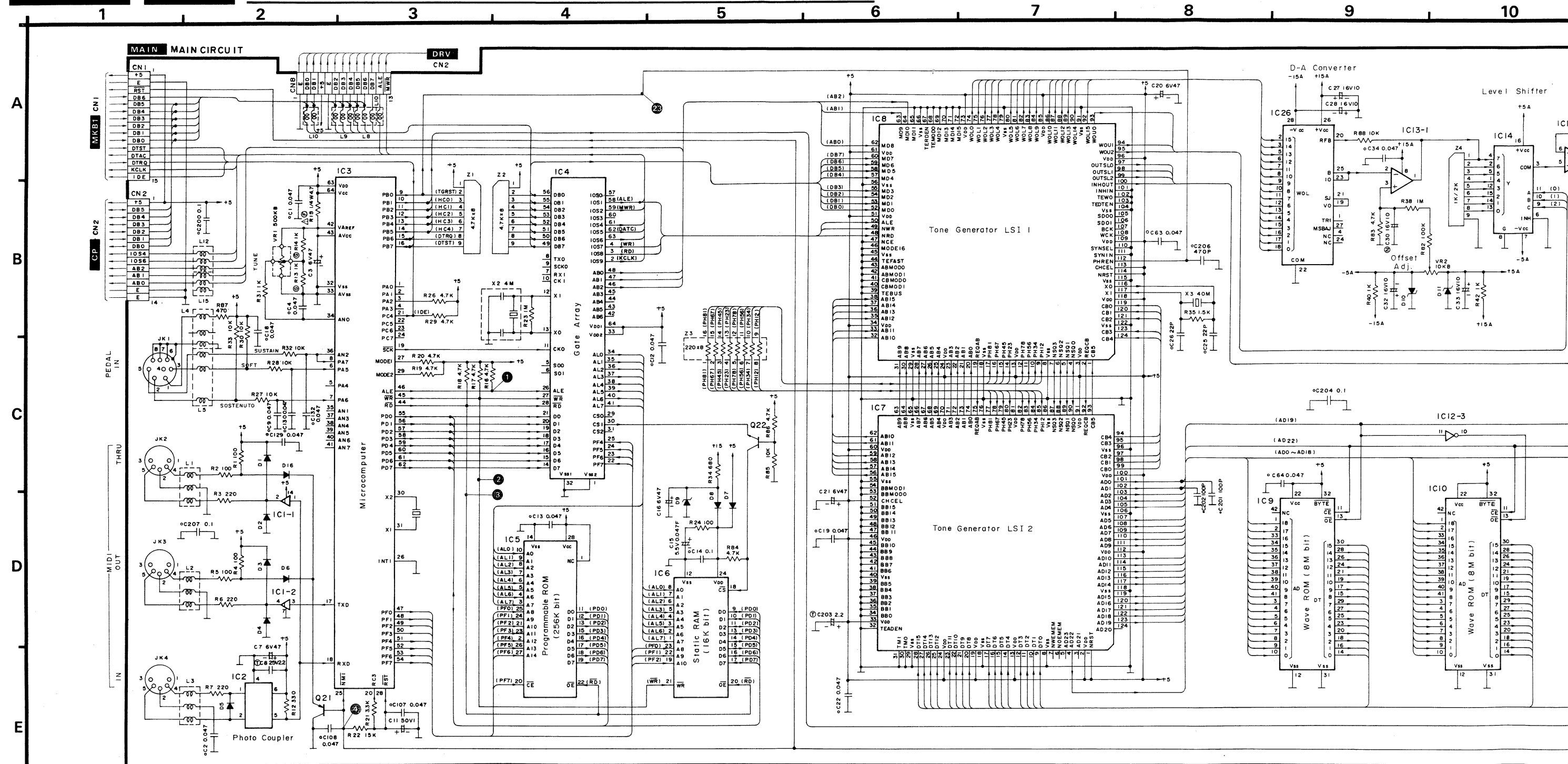
• Sound.....GRAND PIANO
• Keyboard C₅₂



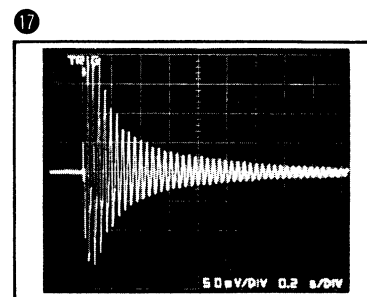
• Sound.....GRAND PIANO
• Keyboard C₅₂



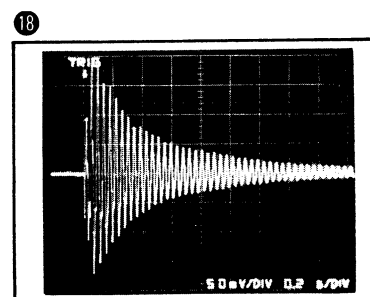
• Sound.....GRAND PIANO
• Keyboard C₅₂



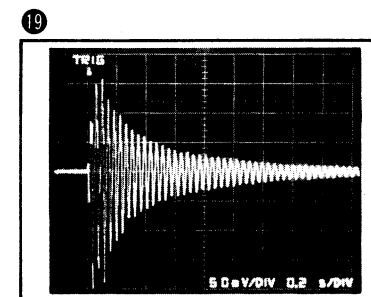
- Sound.....GRAND PIANO
- Keyboard C₅₂



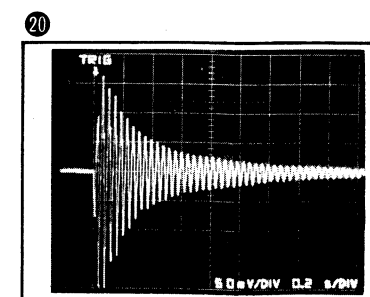
- Sound.....GRAND PIANO
- Keyboard C₅₂
- Main Vol. Max



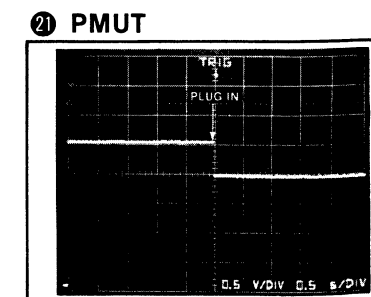
- Sound.....GRAND PIANO
- Keyboard C₅₂
- Main Vol. Max



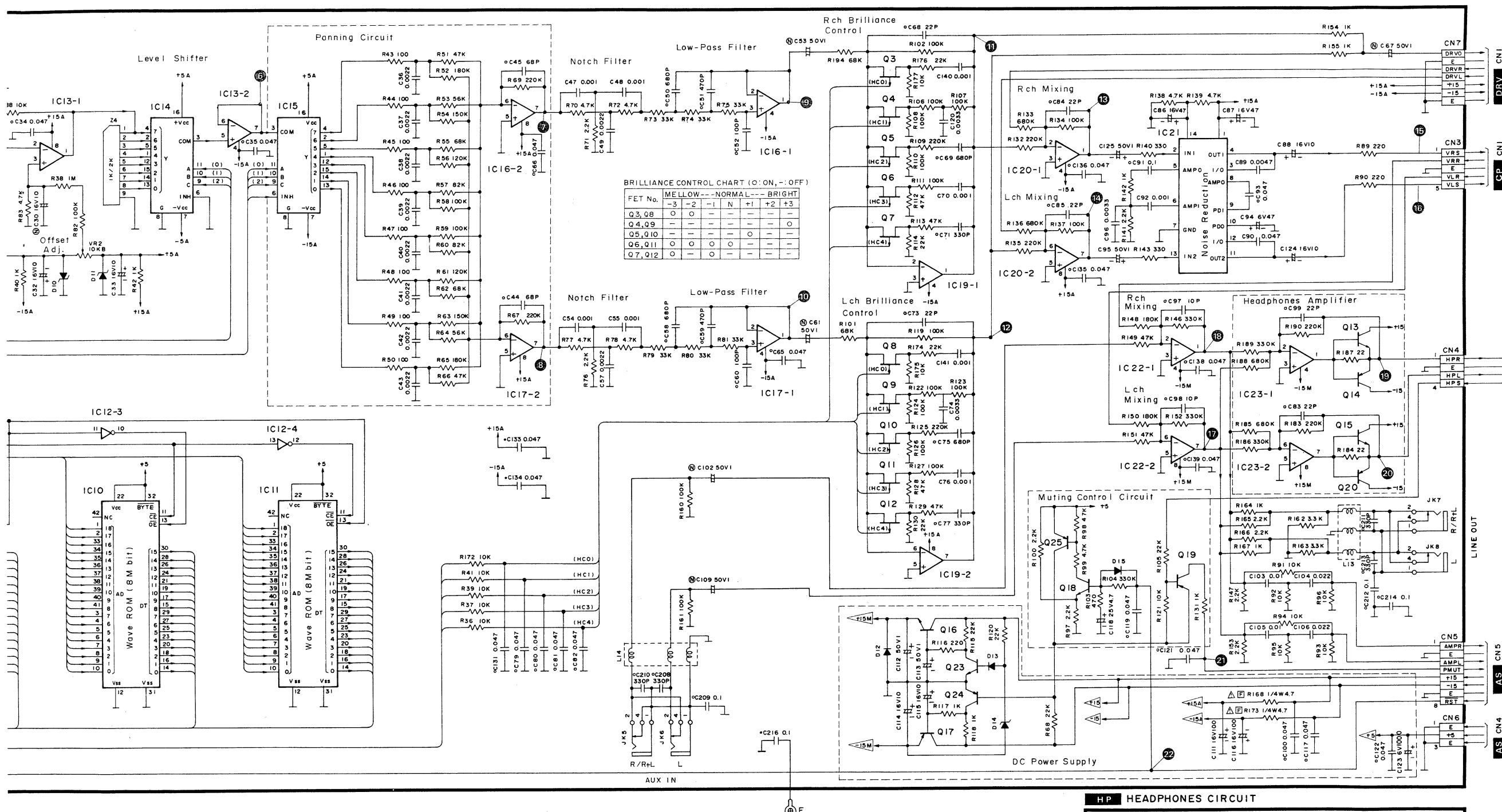
- Sound.....GRAND PIANO
- Keyboard C₅₂
- Main Vol. Max



- Sound.....GRAND PIANO
- Keyboard C₅₂
- Main Vol. Max



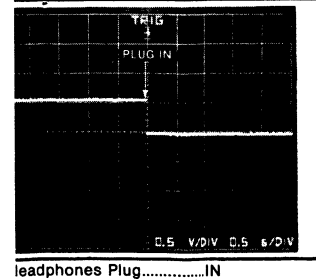
- Headphones Plug.....IN



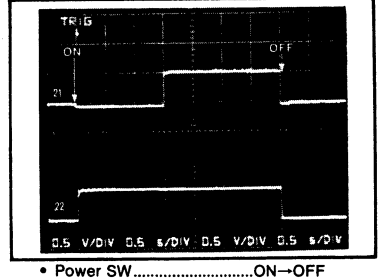
MAIN NOTES:

- IC'S
 - IC1: SVIGM74LS07
 - IC2: SVIGTLP513
 - IC3: SVIG7810HCW
 - IC4: SVIGM603A114
 - IC5: QSIG2PX55AX0
 - IC6: BR6116-100
 - IC7: MN73013PGD
 - IC8: MN73012PGC
 - IC9: QSIGH3C08C26
 - IC10: QSIGH3C08C45
 - IC11: QSIGU3C08015
 - IC12: SVIGM74H04
 - IC13: SVIGM5238L
 - IC14, 15: SVIGT74H4051
 - IC16, 17, 19, 20, 22, 23: SVIGM5218L
 - IC21: SVIGLM1894N
 - IC26: SVIGPCM54
- TRANSISTORS
 - Q3~12: 2SJ105GR
 - Q13, 15: 2SC3940ARS
 - Q14, 20: 2SA1534ARS
 - Q16, 18, 23: 2SC2320LFG
 - Q17, 19, 21, 24, 25: 2SA1015-GR
 - Q22: 2SC1047C
- DIODES
 - D1~8, 13, 15, 16: MA165TA5
 - D9: MA4056
 - D10, 11: MA4051MTA
 - D12: SVDGRK14S
 - D14: MA4062

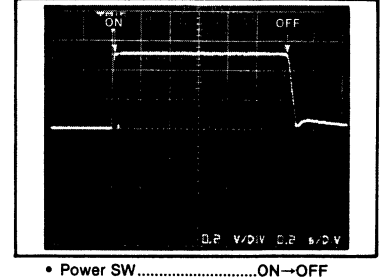
MUT



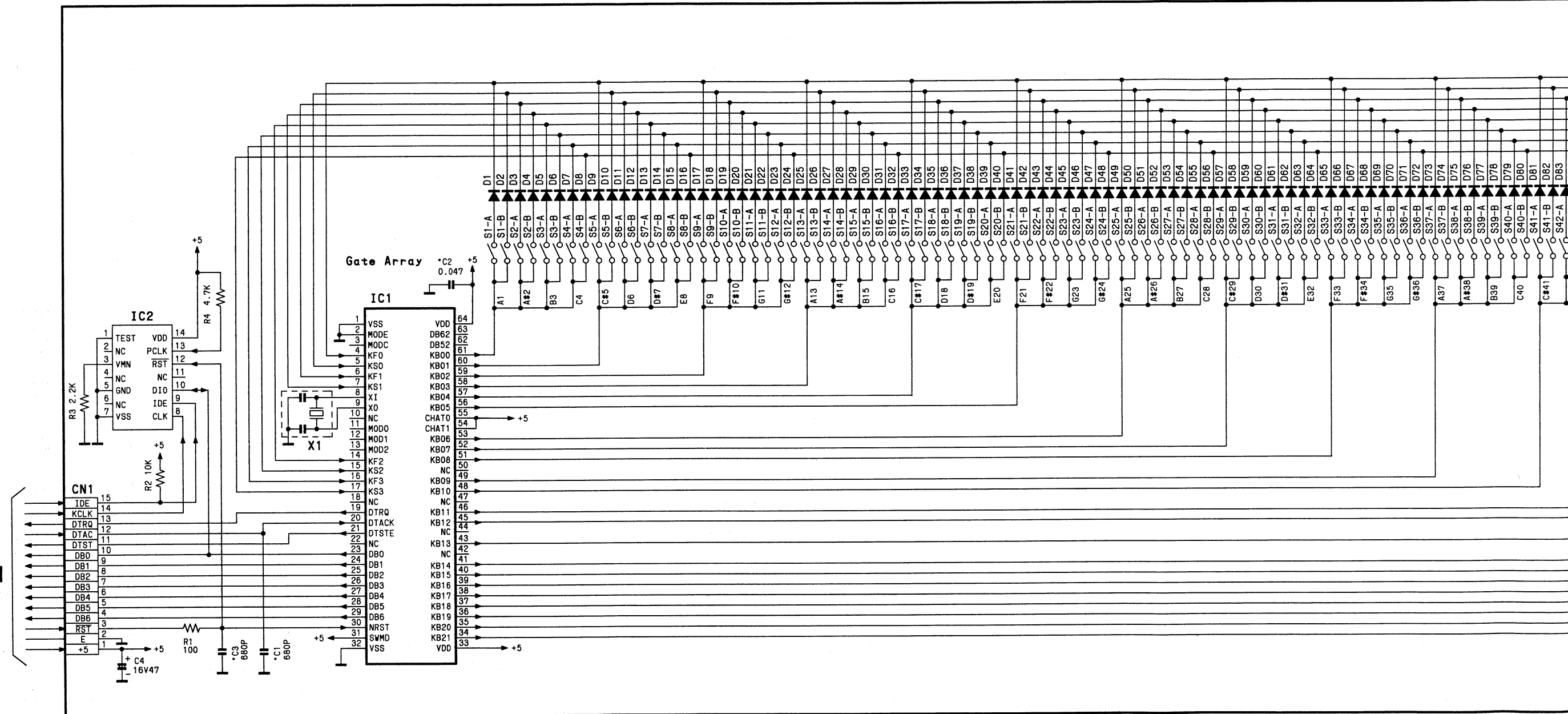
21 PMUT, 22 RST



23 TGRST



MKB1 MANUAL KEYBOARD 1 CIRCUIT DIAGRAM

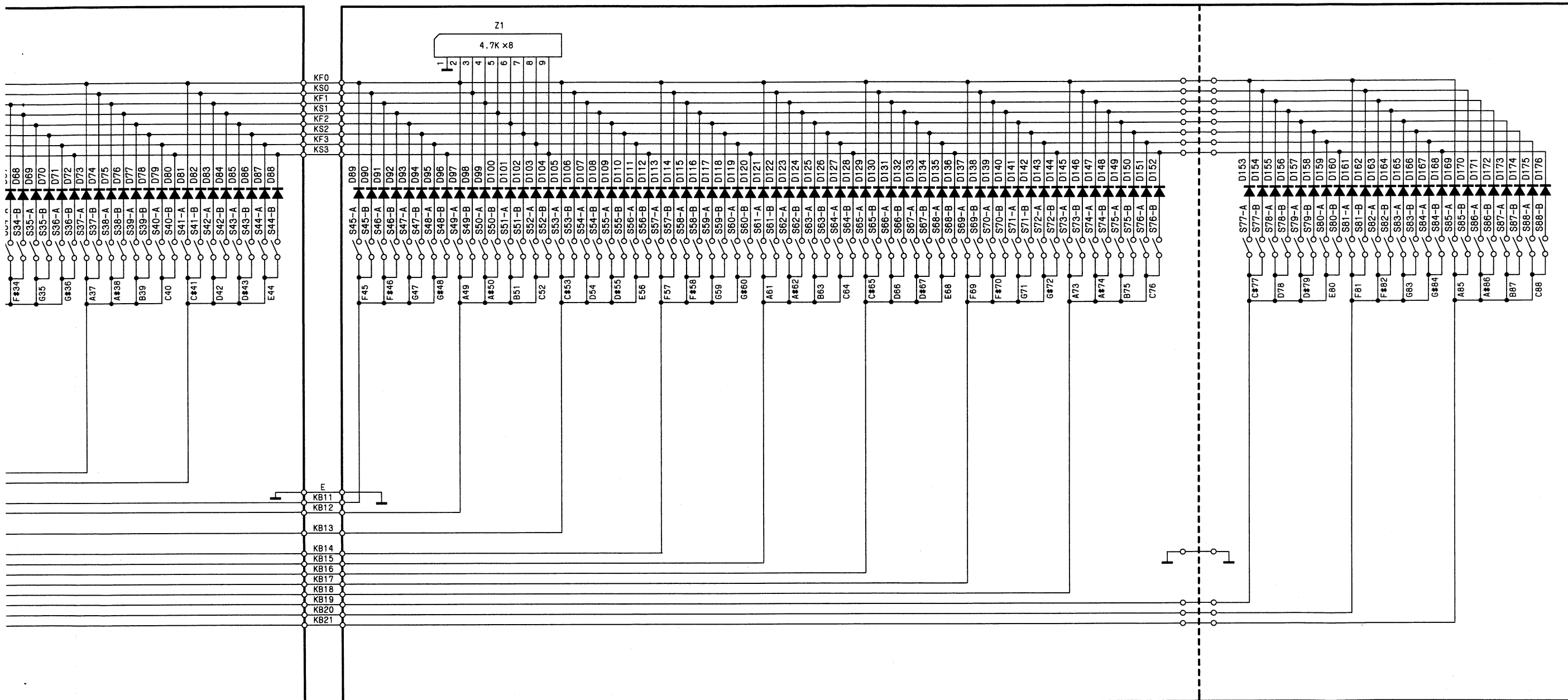


MKB1

NOTES:

- IC'S: MN50020PGV
- IC1: MN1231
- DIODES: MA162A
- D1~88:

MKB2 MANUAL KEYBOARD 2 CIRCUIT DIAGRAM



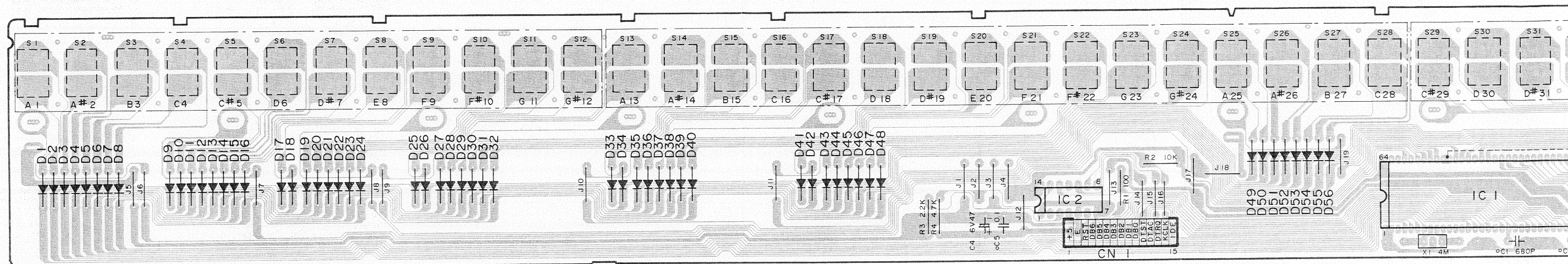
MKB2
NOTES:
• DIODES
D89~176: MA162A

MKB1

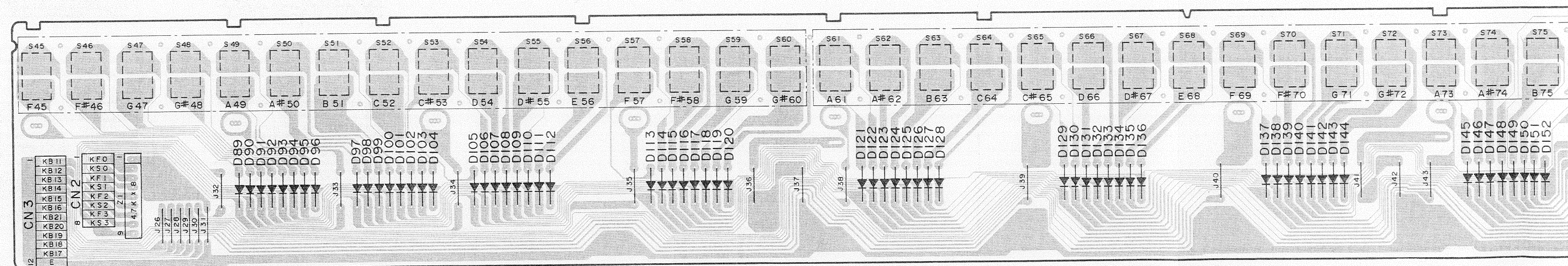
MKB2

MANUAL KEYBOARD 1, 2 CIRCUIT BOARD

MKB1 MANUAL KEYBOARD 1 CIRCUIT BOARD

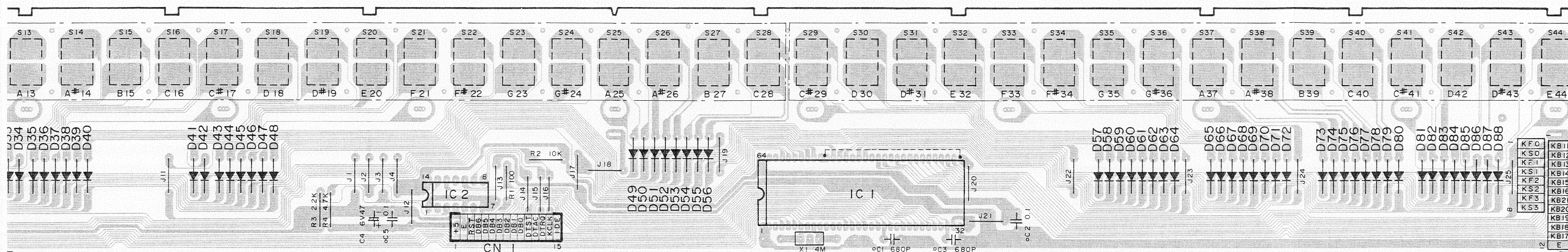


MKB2 MANUAL KEYBOARD 2 CIRCUIT BOARD



5 6 7 8 9 10 11 12 13 14

SXPG203811A

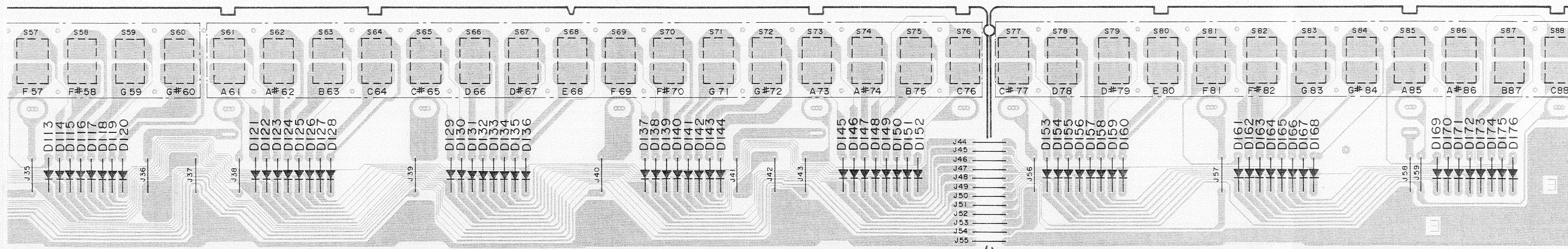


MKB1:

NOTES:

- IC'S
IC1: MN50020PGV
IC2: MN1231
- DIODES
D1~88: MA162A

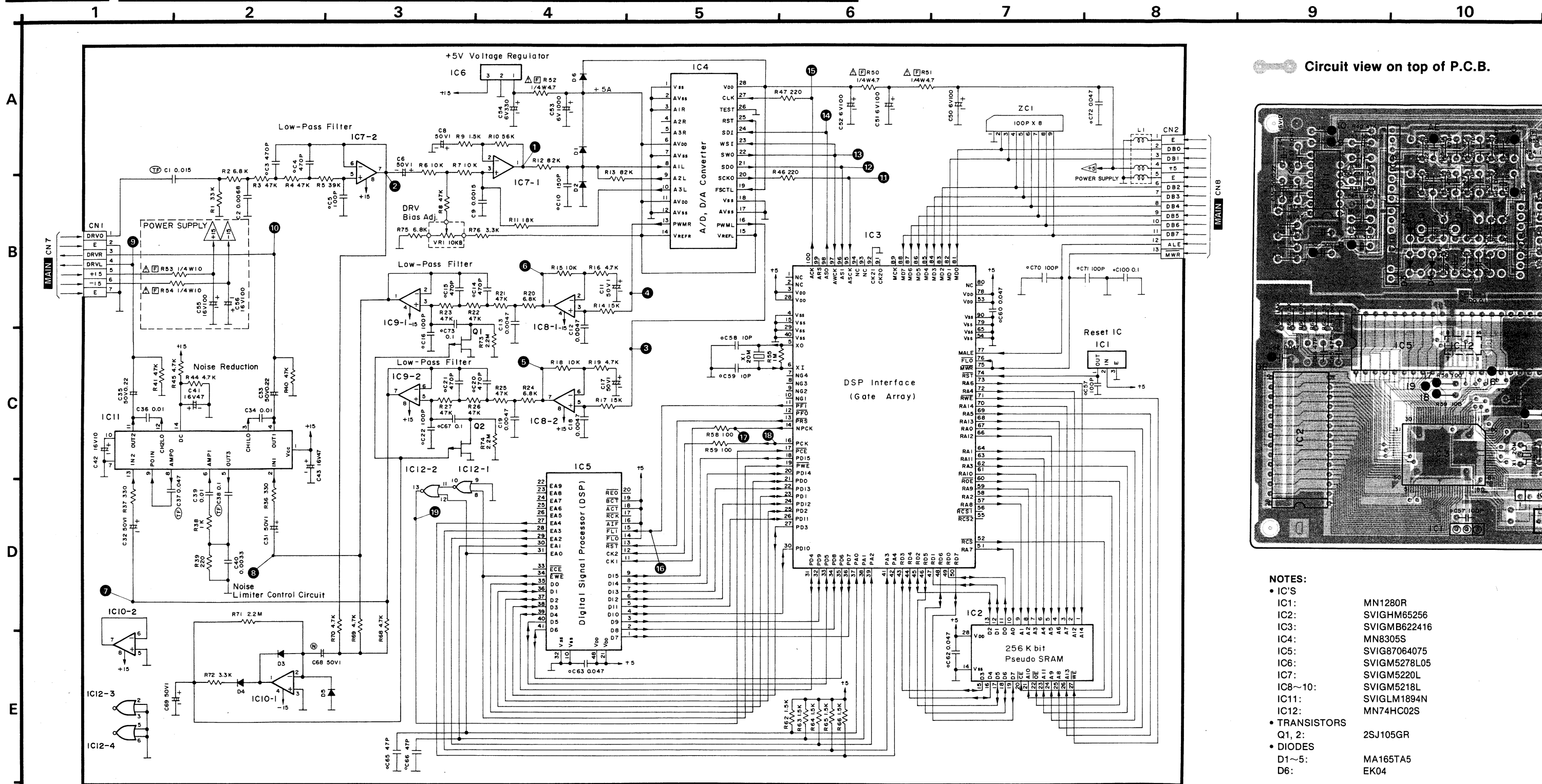
SXPG203811B



MKB2:

NOTES:

- DIODES
D89~176: MA162A

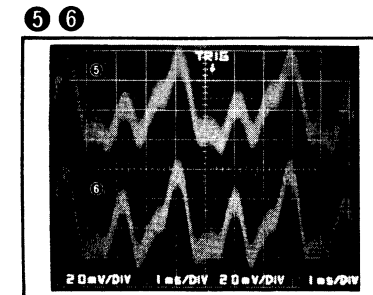
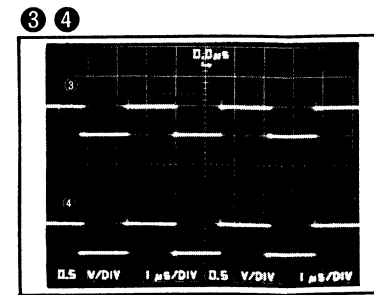
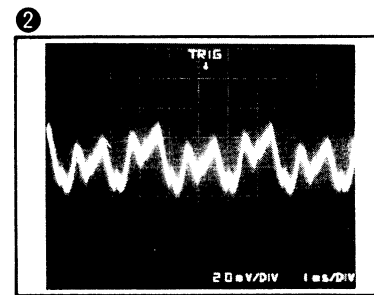
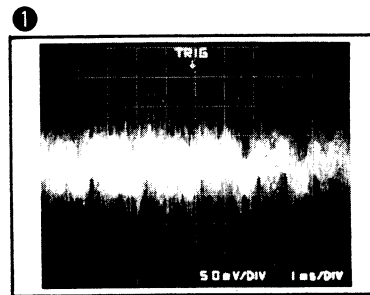


NOTES:

- IC'S
 - IC1: MN1280R
 - IC2: SVIGHM65256
 - IC3: SVIGMB622416
 - IC4: MN8305S
 - IC5: SVIG87064075
 - IC6: SVIGM5278L05
 - IC7: SVIGM5220L
 - IC8~10: SVIGM5218L
 - IC11: SVIGLM1894N
 - IC12: MN74HC02S
- TRANSISTORS
 - Q1, 2: 2SJ105GR
- DIODES
 - D1~5: MA165TA5
 - D6: EK04

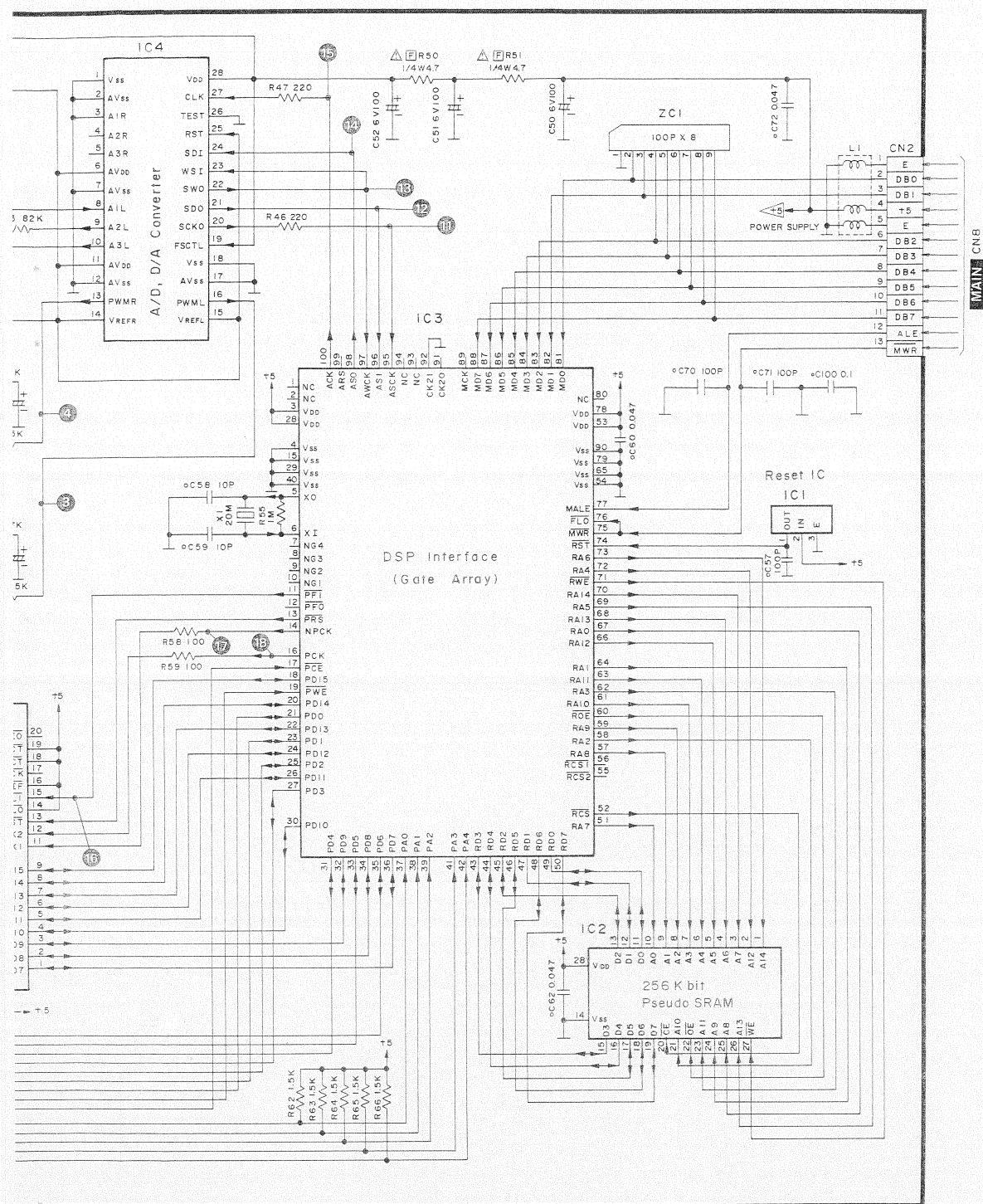
Measuring Conditions

1. The tone signal output varies with the level of key pressing force. In this measurement, the waveform obtained with maximum key pressing force is shown.
2. Set the initial mode before measurement.
3. After initial mode, set the measurement conditions as follows.
 - Sound.....PIPE ORGAN
 - Digital Reverb HALL
 - Keyboard C52 Key

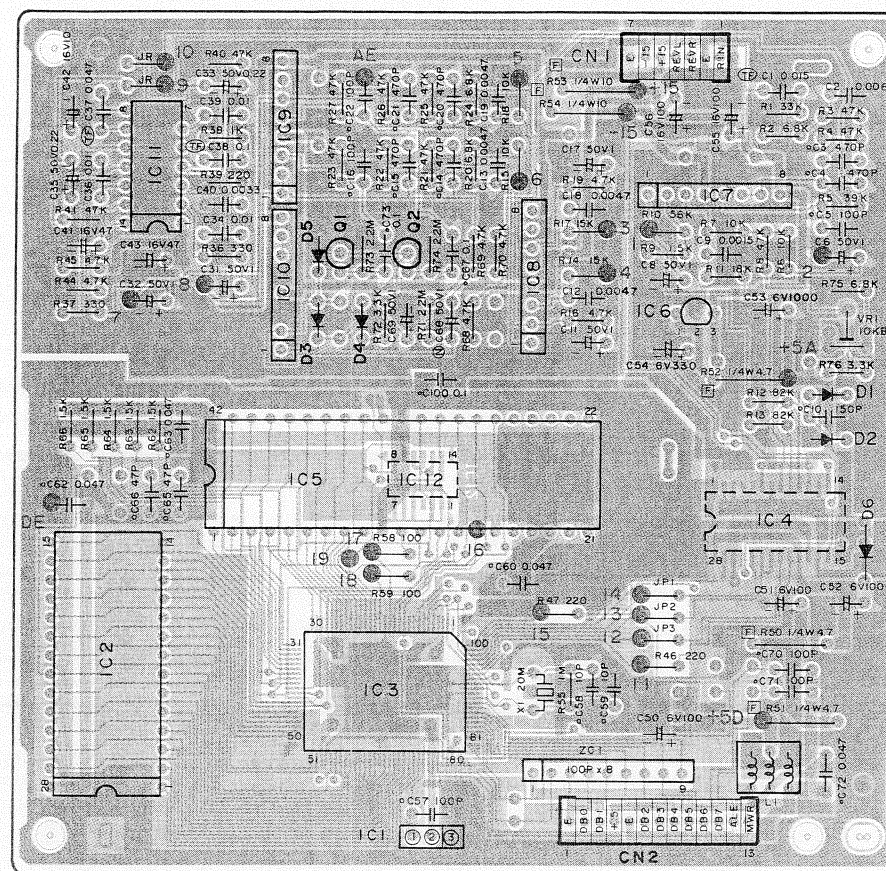


D CIRCUIT BOARD

5 6 7 8 9 10 11 12 13 14



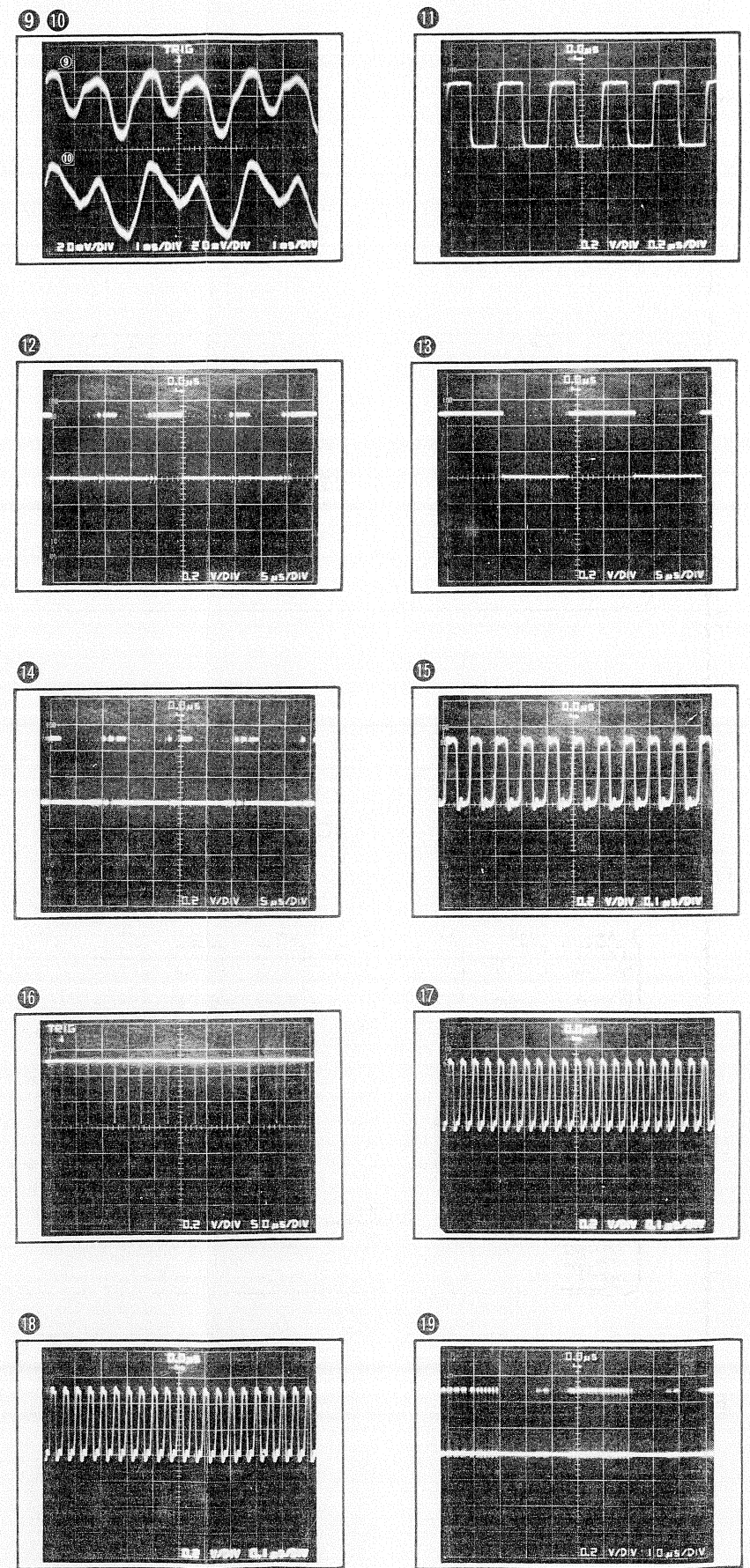
Circuit view on top of P.C.B.



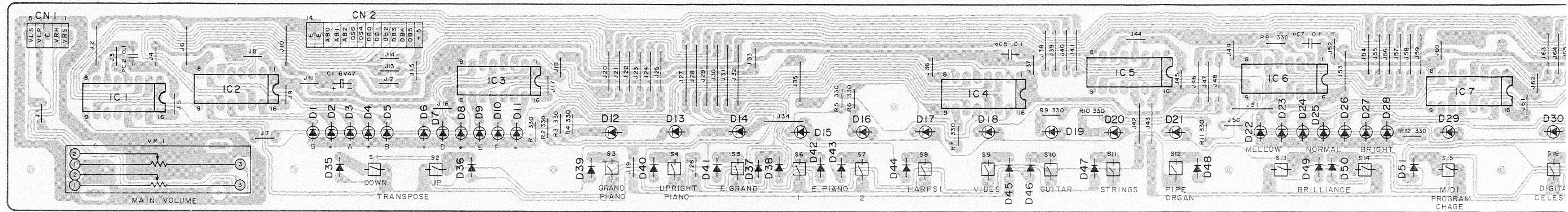
NOTES:

- IC'S
 - IC1: MN1280R
 - IC2: SVIGHM65256
 - IC3: SVIGMB622416
 - IC4: MN8305S
 - IC5: SVIG87064075
 - IC6: SVIGM5278L05
 - IC7: SVIGM5220L
 - IC8~10: SVIGM5218L
 - IC11: SVIGLM1894N
 - IC12: MN74HC02S
- TRANSISTORS
 - Q1, 2: 2SJ105GR
- DIODES
 - D1~5: MA165TA5
 - D6: EK04

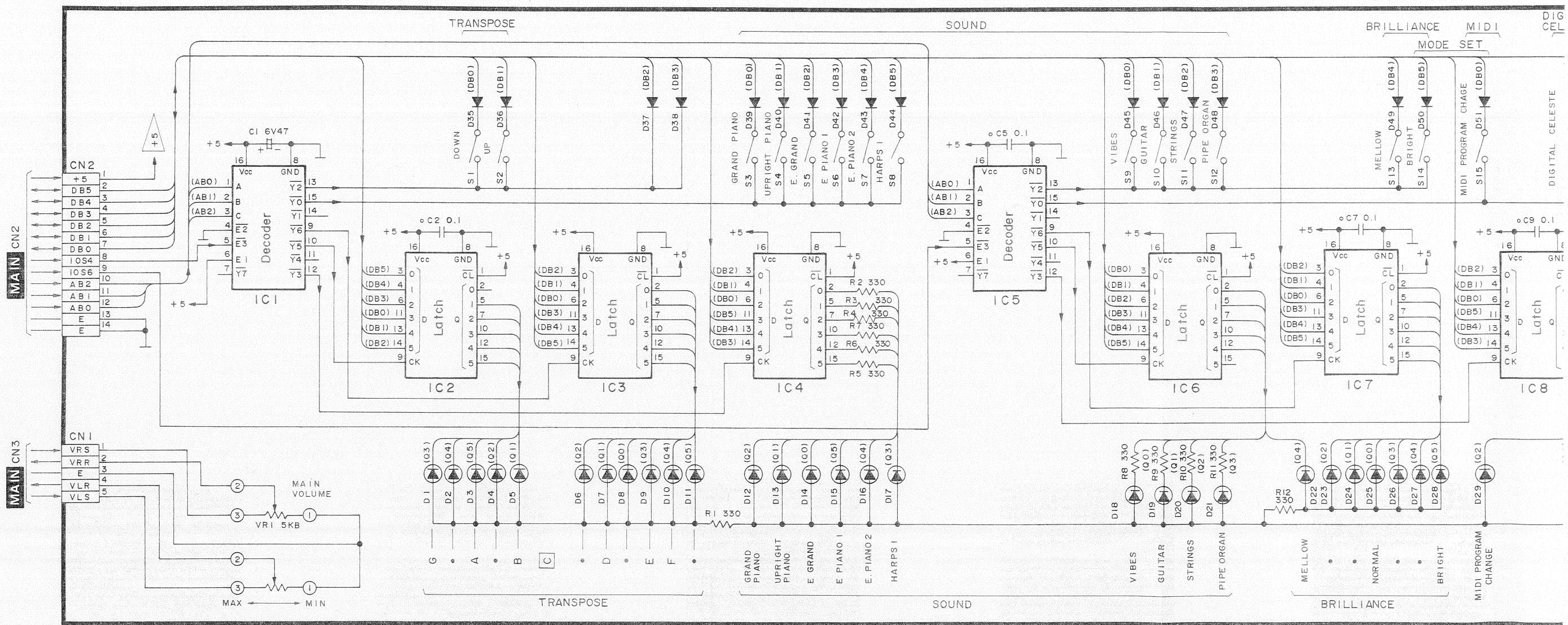
SXPG146041



CP CONTROL PANEL CIRCUIT BOARD



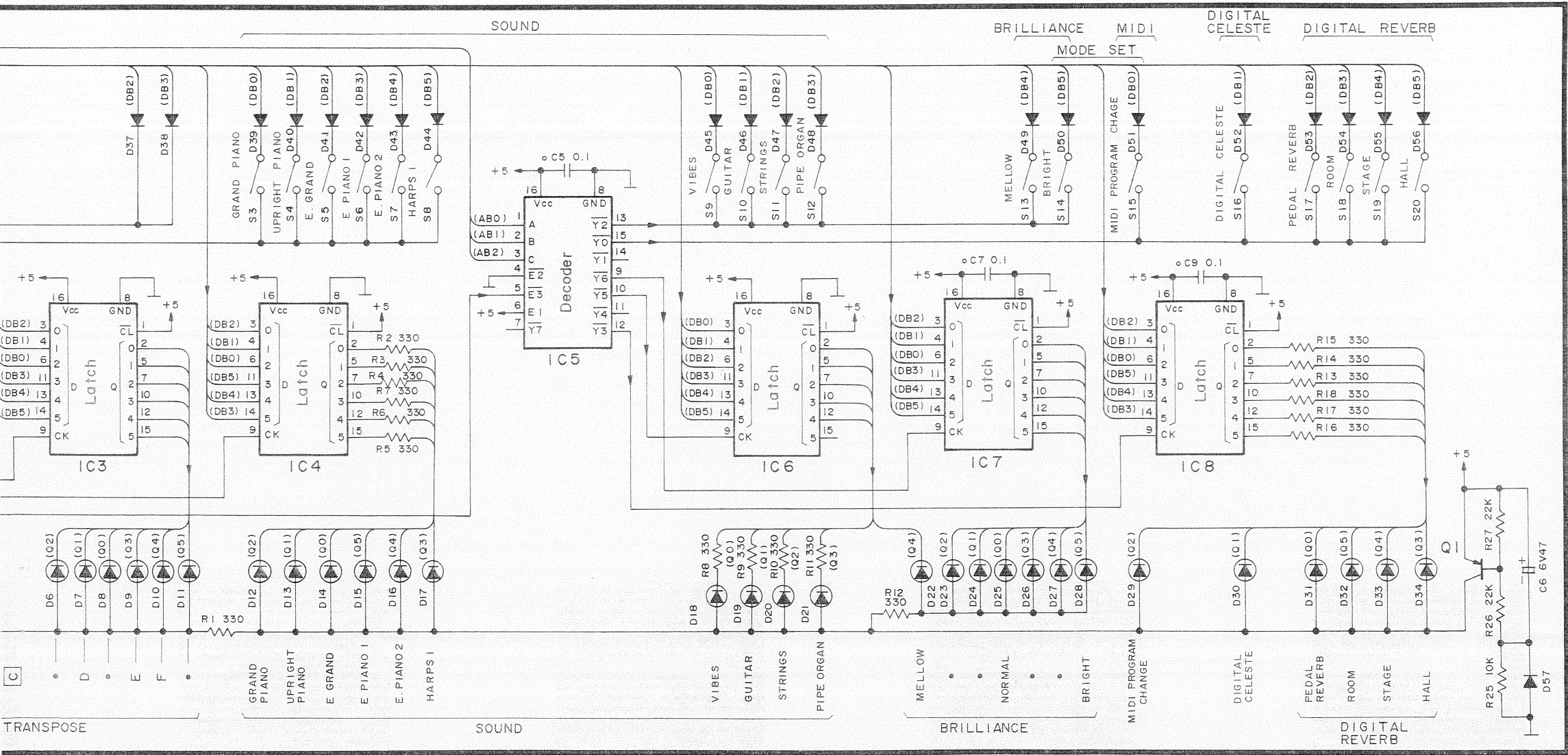
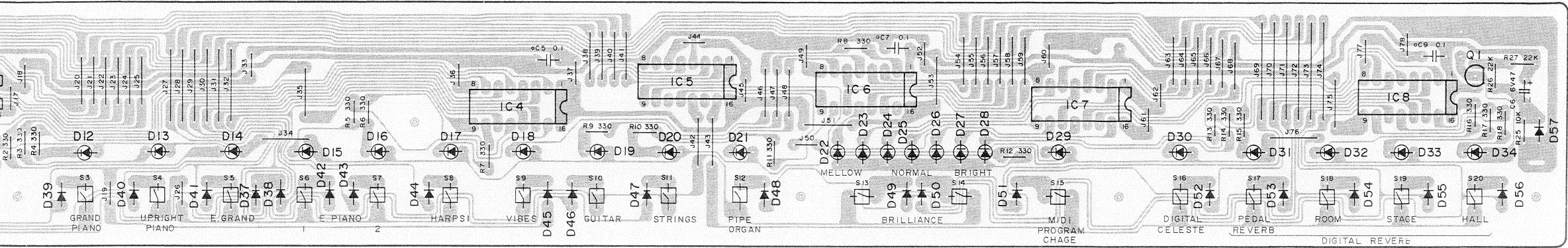
CP CONTROL PANEL CIRCUIT DIAGRAM



CIRCUIT DIAGRAM

5 6 7 8 9 10 11 12 13 14

SXPG203521



- NOTES:
- IC'S
IC1, 5: SVIGM74LS138
IC2~4, 6~8: SVIGM74LS174
 - TRANSISTOR
Q1: 2SA830SB
 - DIODES
D1~24, 26~34: LN282R
D25: LN382G
D35~57: MA165TA5

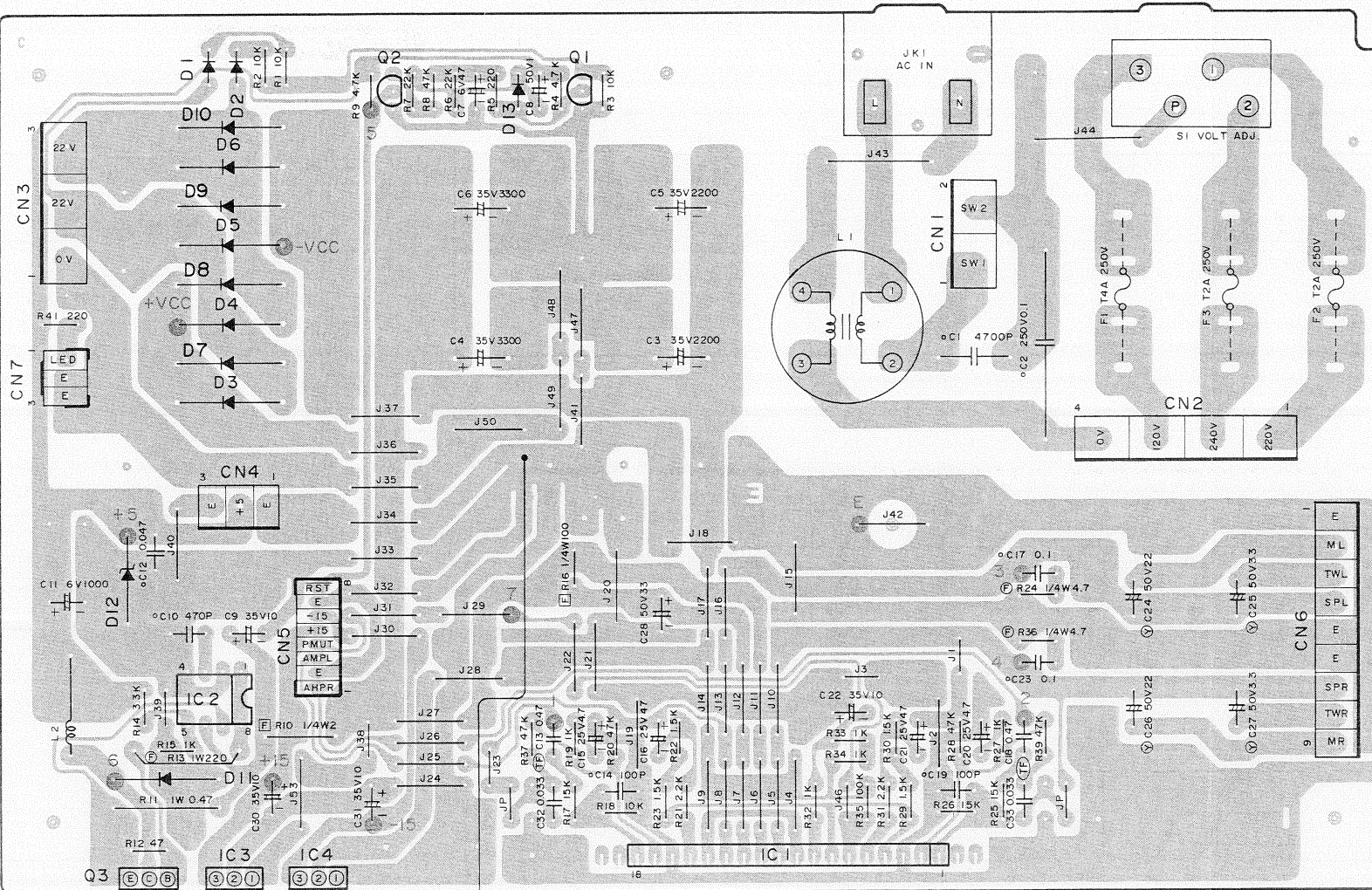
AS AMP & POWER SUPPLY CIRCUIT BOARD

Except for [M] [MC] [XM] [XL] [XR] and [EH]

SXPG203791A

Products for [XL] and [XR]

SXPG2037121A

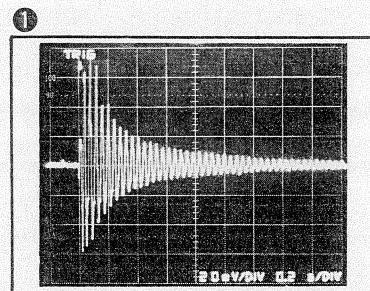


Measuring Conditions

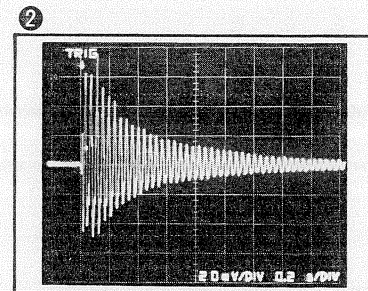
- The tone signal output varies with the level of key pressing force. In this measurement, the waveform obtained with maximum key pressing force is shown.
- Set the initial mode before measurement.

NOTES:

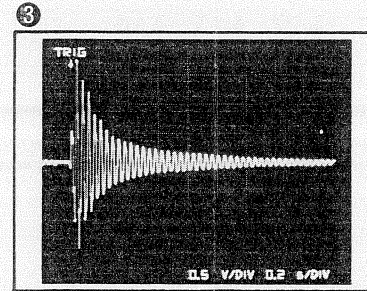
- IC'S
 - IC1: SVIGS4172M2M
 - IC2: SVIGM5291P
 - IC3: SVIGM5F7815
 - IC4: SVIGM5F7915
- TRANSISTORS
 - Q1, 2: 2SC2320LFG
 - Q3: 2SB953AQP
- DIODES
 - D1, 2: SVDGERA1502Y
 - D3~10: SVDGS3V20-15
 - D11: SVDGRK14S
 - D12: MA2062LF
 - D13: MA165TA5
- FUSES
 - F1: XBA2C40TB0
 - F2, 3: XBA2C20TB0



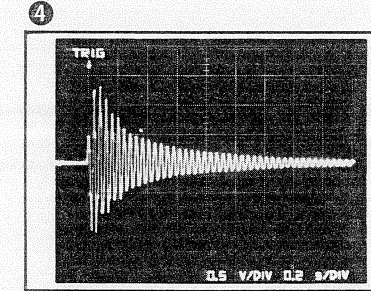
- Sound.....GRAND PIANO
- Main Vol.....Max
- Keyboard.....C52



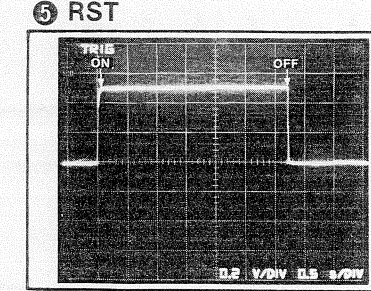
- Sound.....GRAND PIANO
- Main Vol.....Max
- Keyboard.....C52



- Sound.....GRAND PIANO
- Main Vol.....Max
- Keyboard.....C52



- Sound.....GRAND PIANO
- Main Vol.....Max
- Keyboard.....C52



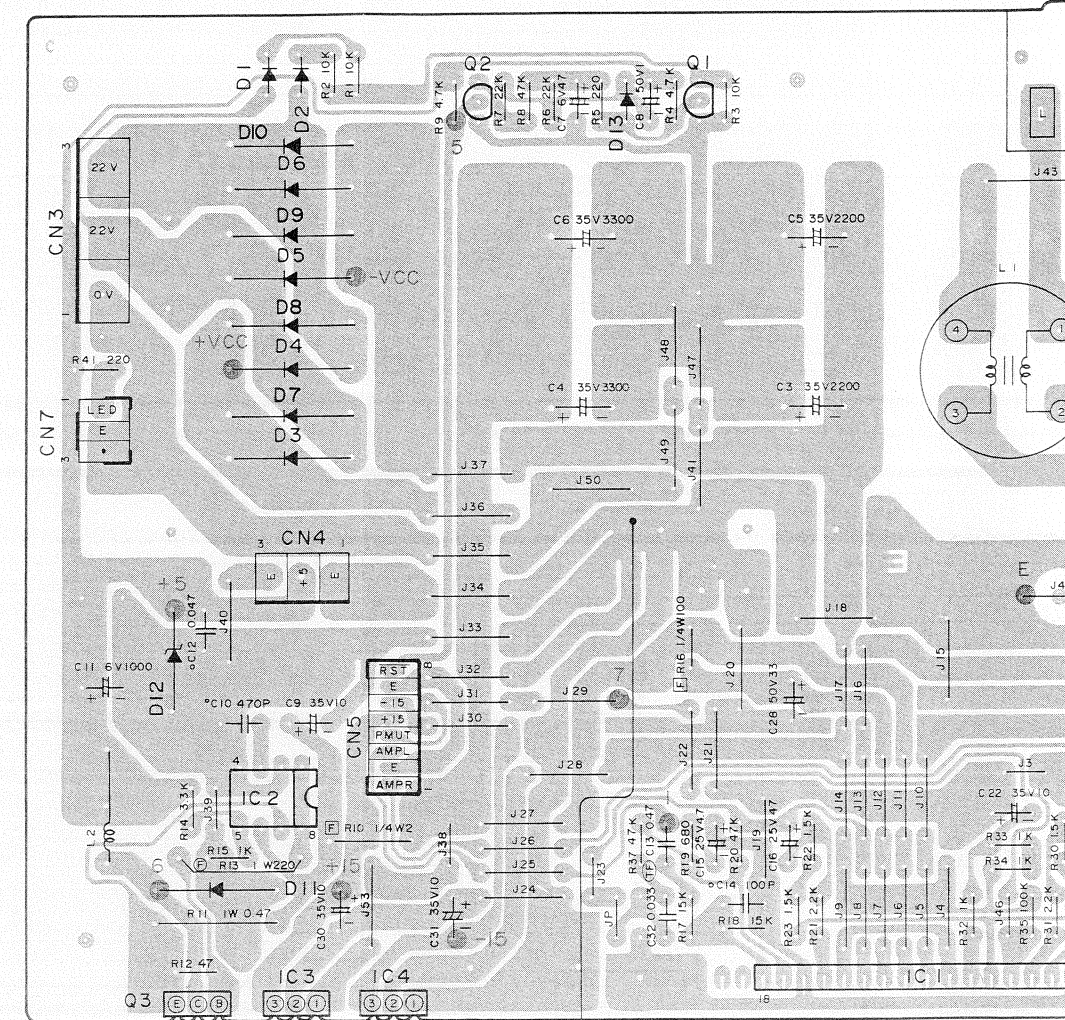
- Power SW.....ON--OFF

AS AMP & POWER SUPPLY CIRCUIT DIAGRAM

Products for [M] [MC] and [XM]

SXPG2037111A

Pro



NOTES:

- IC'S
 - IC1: SVIGS
 - IC2: SVIGN
 - IC3: SVIGN
 - IC4: SVIGN
- TRANSISTORS
 - Q1, 2: 2SC23
 - Q3: 2SB95

CANCELLER CIRCUIT BOARD

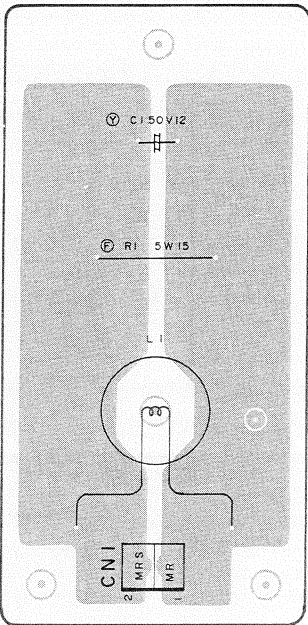
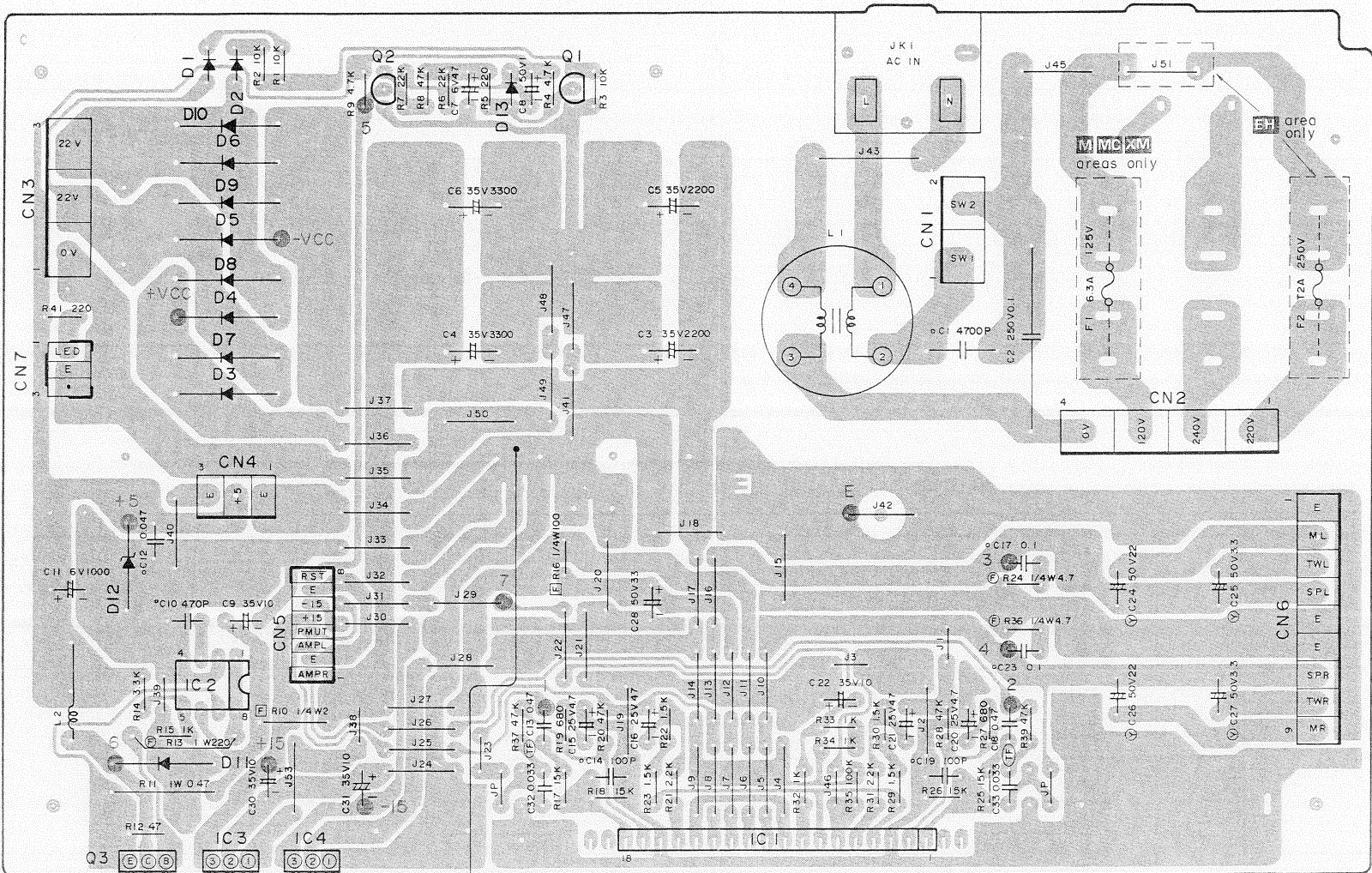
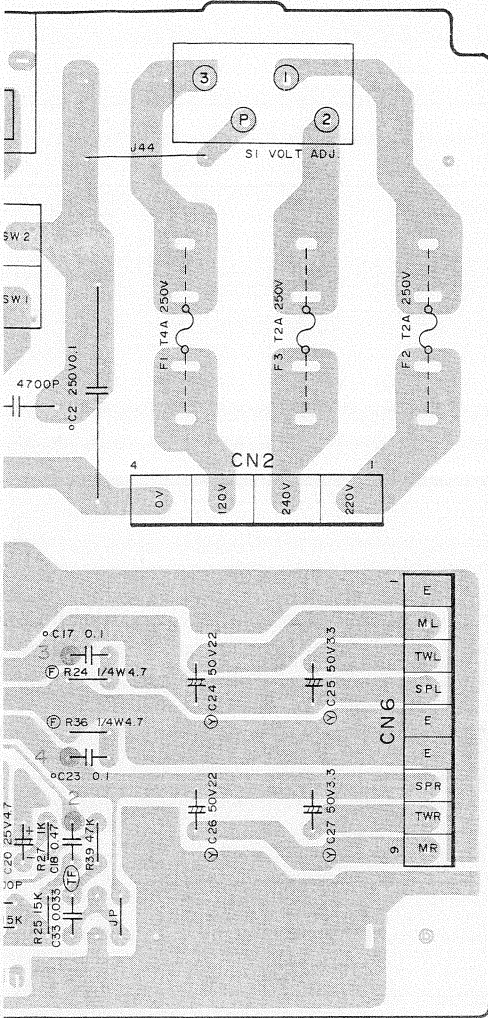


AS AMP & POWER SUPPLY CIRCUIT DIAGRAM

Products for [M] [MC] and [XM] SXPG2037111A

Products for [EH] SXPG2037131A

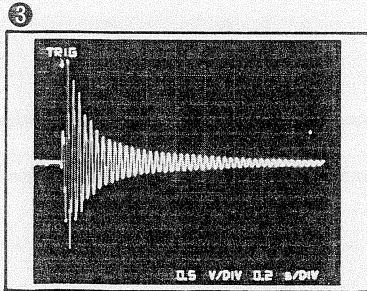
PC SXPG204711



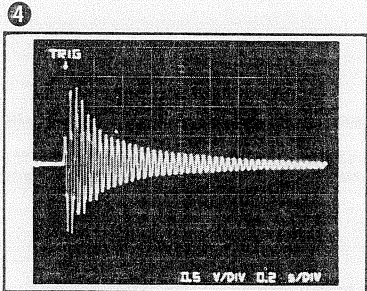
- SVIGS4172M2M
- SVIGM5291P
- SVIGM5F7815
- SVIGM5F7915
- 2SC2320LFG
- 2SB953AQP
- DIODES
- D1, 2:
- D3~10:
- D11:
- D12:
- D13:
- FUSES
- F1:
- F2, 3:
- SVDGERA1502Y
- SVDGS3V20-15
- SVDGRK14S
- MA2062LF
- MA165TA5
- XBA2C40TB0
- XBA2C20TB0

NOTES:

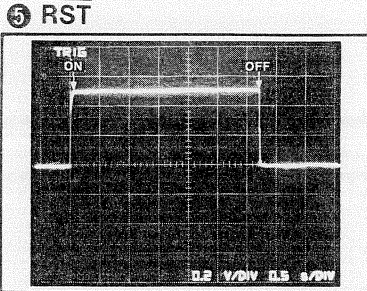
- IC'S
- IC1:
- IC2:
- IC3:
- IC4:
- TRANSISTORS
- Q1, 2:
- Q3:
- DIODES
- D1, 2:
- D3~10:
- D11:
- D12:
- D13:
- FUSES
- F1: [M] [MC] [XM]
- F2: [EH]
- SVIGS4172M2M
- SVIGM5291P
- SVIGM5F7815
- SVIGM5F7915
- 2SC2320LFG
- 2SB953AQP
- SVDGERA1502Y
- SVDGS3V20-15
- SVDGRK14S
- MA2062LF
- MA165TA5
- XBA1C63NU100
- XBA2C20TB0



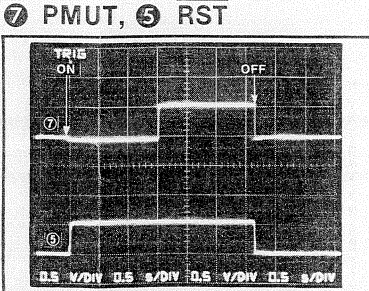
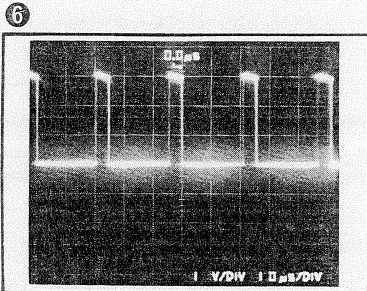
- Sound.....GRAND PIANO
- Main Vol.....Max
- Keyboard.....C52



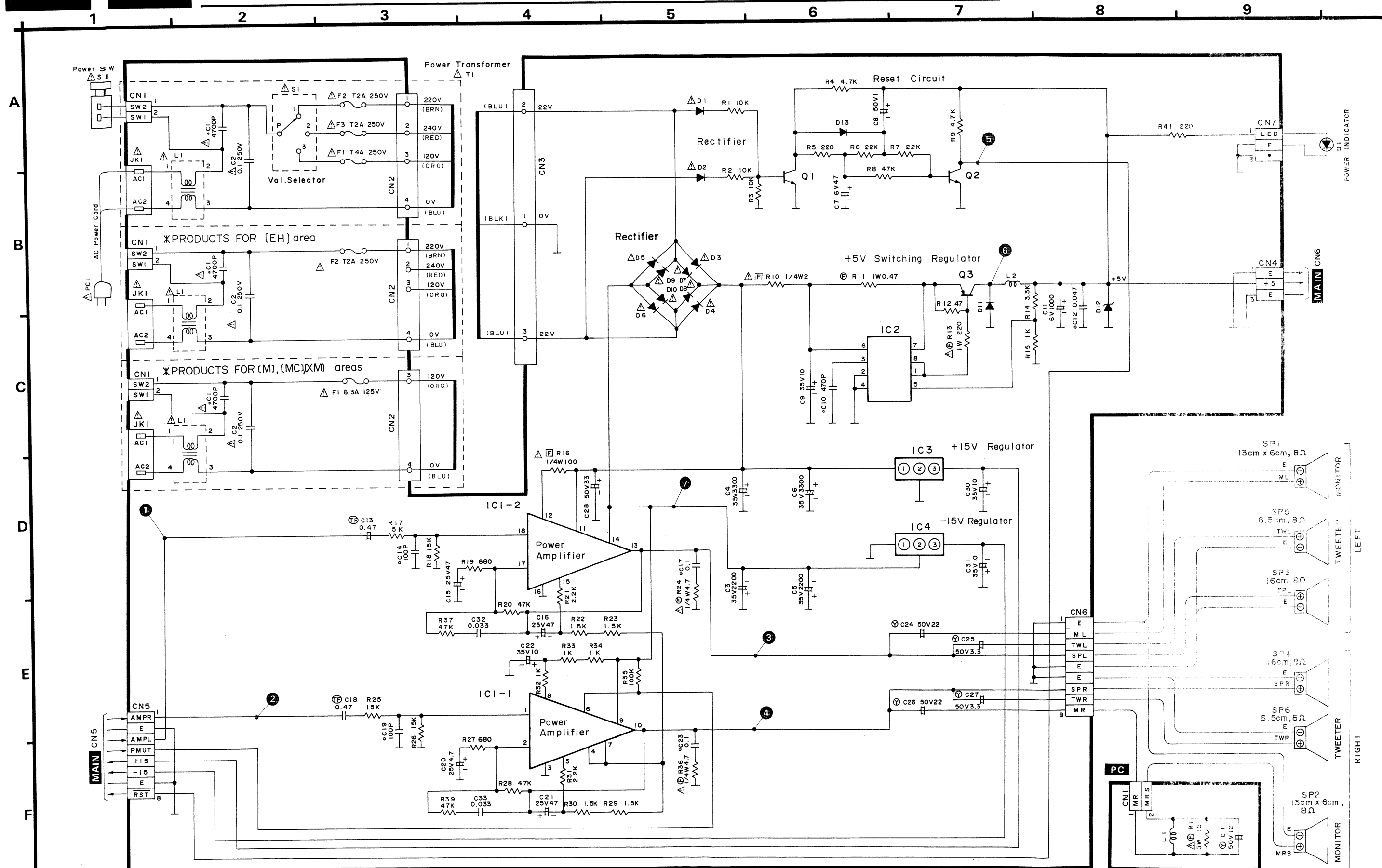
- Sound.....GRAND PIANO
- Main Vol.....Max
- Keyboard.....C52



- Power SW.....ON-OFF



- Power SW.....ON-OFF



REPLACEMENT PARTS LIST.....P.C.B. and Wiring Parts

Notes:

1. Printed circuit boards assembly with mark (NLA) is no longer available after production discontinuation of the complete set.

2. Important safety notice
Components identified by $\triangle$ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The "S" mark is service standard parts and may differ from production parts.

4. $\bigcirc$ mark are new parts.

5. For part No. with area mark, check the area when placing an order.

6. Cabinet color
 - SX-PX66.....Black
 - SX-PX66M.....Walnut

PRINTED CIRCUIT BOARD

	NLA	Area	Part No.	Description	Per/Set
$\bigcirc$	NLA		SXPG203661	MAIN	1
$\bigcirc$	NLA		SXPG203711B	HP	1
$\bigcirc$	NLA		SXPG203811A	MKB1	1
$\bigcirc$	NLA		SXPG203811B	MKB2	1
$\bigcirc$	NLA		SXPG146041	DRV	1
$\bigcirc$	NLA		SXPG203521	CP	1
$\bigcirc$	NLA	M MC XM	SXPG2037111A	AS	1
$\bigcirc$	NLA	XL XR	SXPG2037121A	AS	1
$\bigcirc$	NLA	EH	SXPG2037131A	AS	1
$\bigcirc$	NLA	Others	SXPG203791A	AS	1
$\bigcirc$	NLA		SXPG204711	PC	1

MAIN MAIN CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIGM74LS07	Hex Buffers (O.C.)	1
IC2	SVIGTLP513	Photo Coupler	1
IC3	SVIG7810HCW	1 chip 8 bit Microcomputer	1
IC4	SVIGM603A114	Gate Array	1
IC5	QSIG2PX55AX0	256K bit Programmable ROM	1
IC6	BR6116-100	16K bit Static RAM	1
IC7	MN73013PGD	Tone Generator LSI 2	1
IC8	MN73012PGC	Tone Generator LSI 1	1
IC9	QSIGH3C08C26	8M bit Wave ROM	1
IC10	QSIGH3C08C45	8M bit Wave ROM	1
IC11	QSIGU3C08015	8M bit Wave ROM	1
IC12	SVIGM74H04	Hex Inverters	1
IC13	SVIGM5238L	Operational Amplifier	1
IC14, 15	SVIGT74H4051	8-channel Multiplexer	2
IC16, 17, 19, 20, 22, 23	SVIGM5218L	Operational Amplifier	6
IC21	SVIGLM1894N	Dynamic Noise Reduction	1
IC26	SVIGPCM54	D-A Converter	1
TRANSISTORS			
Q3~12	2SJ105GR	FET	10
Q13, 15	2SC3940ARS		2
Q14, 20	2SA1534ARS		2
Q16, 18, 23	2SC2320LFG	2SC1310FG (SUB. Part)	3
Q17, 19, 21, 24, 25	2SA1015-GR	2SA933STRS (SUB. Part)	5
Q22	2SC1047C		1
DIODES			
D1~8, 13, 15, 16	MA165TA5		11
D9	MA4056	Zener, 5.6V	1
D10, 11	MA4051MTA	Zener, 5.1V	2
D12	SVDGRK14S	Diode	1
D14	MA4062	Zener, 6.2V	1

Ref. No.	Part No.	Description	Per/Set
OSCILLATORS			
X1	QSXG1A1500A	15MHz, Quartz Oscillator	1
X2	EF0FC4004A3	4MHz, Ceramic Oscillator	1
X3	QSXG1B4000A	40MHz, Quartz Oscillator	1
COMPONENT COMBINATIONS			
Z1, 2	EXBPI8472JM	4.7K Ω $\times$ 8	2
Z3	EXBM16V221JA	220 Ω $\times$ 8	1
Z4	EXAMR14A1002	1K Ω /2K Ω , Ladder Network	1
COILS			
L1~5, 8~10, 12~15	SLQG15W34DPQ	Coil	12
JACKS			
JK1	QJSG002AA	PEDAL IN	1
JK2~4	SJSG1370A	MIDI (THRU, OUT, IN)	3
JK5~8	SJJG400A	AUX IN, LINE OUT	4
VARIABLE RESISTOR			
VR1	EVA06215B55G	500K Ω B, TUNE	1
SEMI-FIXED RESISTOR			
VR2	EVSG0E1B103A	10K Ω B, Offset Adj.	1
RESISTORS			
R1, 2	ERDS2TJ101	100 Ω	2
R3	ERDS2TJ221	220 Ω	1
R4, 5	ERDS2TJ101	100 Ω	2
R6	ERDS2TJ221	220 Ω	1
R7	ERDS2TJ221	220 Ω	1
R9	ERDS2TJ104	100K Ω	1
R12	ERDS2TJ331	330 Ω	1
R13, 14	ER0S2CKF1001	1K Ω , $\pm$ 1%	2
R15	$\triangle$ ERD2FCJ4R7	4.7 Ω , 1/4W, Fuse Type	1
R16~20	ERDS2TJ472	4.7K Ω	5
R21	ERDS2TJ332	3.3K Ω	1
R22	ERDS2TJ153	15K Ω	1
R23	ERDS2TJ105	1M Ω	1
R24	ERDS2TJ101	100 Ω	1
R26	ERDS2TJ472	4.7K Ω	1
R27, 28	ERDS2TJ103	10K Ω	2
R29	ERDS2TJ472	4.7K Ω	1
R30	ERDS2TJ103	10K Ω	1
R31	ERDS2TJ102	1K Ω	1
R32, 33	ERDS2TJ103	10K Ω	2
R34	ERDS2TJ681	680 Ω	1
R35	ERDS2TJ152	1.5K Ω	1
R36, 37	ERDS2TJ103	10K Ω	2
R38	ERDS2TJ105	1M Ω	1
R39	ERDS2TJ103	10K Ω	1

Ref. No.	Part No.	Description	Per/Set
R40	ERDS2TJ102	1K Ω	1
R41	ERDS2TJ103	10K Ω	1
R42	ERDS2TJ102	1K Ω	1
R43~50	ERDS2TJ101	100 Ω	8
R51	ERDS2TJ473	47K Ω	1
R52	ERDS2TJ184	180K Ω	1
R53	ERDS2TJ563	56K Ω	1
R54	ERDS2TJ154	150K Ω	1
R55	ERDS2TJ683	68K Ω	1
R56	ERDS2TJ124	120K Ω	1
R57	ERDS2TJ823	82K Ω	1
R58, 59	ERDS2TJ104	100K Ω	2
R60	ERDS2TJ823	82K Ω	1
R61	ERDS2TJ124	120K Ω	1
R62	ERDS2TJ683	68K Ω	1
R63	ERDS2TJ154	150K Ω	1
R64	ERDS2TJ563	56K Ω	1
R65	ERDS2TJ184	180K Ω	1
R66	ERDS2TJ473	47K Ω	1
R67	ERDS2TJ224	220K Ω	1
R68	ERDS2TJ223	22K Ω	1
R69	ERDS2TJ224	220K Ω	1
R70	ERDS2TJ472	4.7K Ω	1
R71	ERDS2TJ222	2.2K Ω	1
R72	ERDS2TJ472	4.7K Ω	1
R73~75	ERDS2TJ333	33K Ω	3
R76	ERDS2TJ222	2.2K Ω	1
R77, 78	ERDS2TJ472	4.7K Ω	2
R79~81	ERDS2TJ333	33K Ω	3
R82	ERDS2TJ104	100K Ω	1
R83, 84	ERDS2TJ472	4.7K Ω	2
R85	ERDS2TJ103	10K Ω	1
R86	ERDS2TJ472	4.7K Ω	1
R87	ERDS2TJ471	470 Ω	1
R88	ERDS2TJ103	10K Ω	1
R89, 90	ERDS2TJ221	220 Ω	2
R91~96	ERDS2TJ103	10K Ω	6
R97	ERDS2TJ222	2.2K Ω	1
R98	ERDS2TJ473	47K Ω	1
R99	ERDS2TJ472	4.7K Ω	1
R100	ERDS2TJ222	2.2K Ω	1
R101	ERDS2TJ683	68K Ω	1
R102	ERDS2TJ104	100K Ω	1
R103	ERDS2TJ471	470 Ω	1
R104	ERDS2TJ334	330K Ω	1
R105	ERDS2TJ223	22K Ω	1
R106~108	ERDS2TJ104	100K Ω	3
R109	ERDS2TJ224	220K Ω	1
R110, 111	ERDS2TJ104	100K Ω	2
R112, 113	ERDS2TJ473	47K Ω	2
R114	ERDS2TJ223	22K Ω	1
R115	ERDS2TJ222	2.2K Ω	1
R116	ERDS2TJ221	220 Ω	1
R117, 118	ERDS2TJ102	1K Ω	2
R119	ERDS2TJ104	100K Ω	1
R120	ERDS2TJ223	22K Ω	1
R121	ERDS2TJ103	10K Ω	1
R122~124	ERDS2TJ104	100K Ω	3
R125	ERDS2TJ224	220K Ω	1
R126, 127	ERDS2TJ104	100K Ω	2
R128, 129	ERDS2TJ473	47K Ω	2
R130	ERDS2TJ223	22K Ω	1
R131	ERDS2TJ102	1K Ω	1
R132	ERDS2TJ224	220K Ω	1
R133	ERDS2TJ684	680K Ω	1
R134	ERDS2TJ104	100K Ω	1
R135	ERDS2TJ224	220K Ω	1
R136	ERDS2TJ684	680K Ω	1

Ref. No.	Part No.	Description	Per/Set
R137	ERDS2TJ104	100K Ω	1
R138, 139	ERDS2TJ472	4.7K Ω	2
R140	ERDS2TJ331	330 Ω	1
R141	ERDS2TJ222	2.2K Ω	1
R142	ERDS2TJ102	1K Ω	1
R143	ERDS2TJ331	330 Ω	1
R146	ERDS2TJ334	330K Ω	1
R147	ERDS2TJ222	2.2K Ω	1
R148	ERDS2TJ184	180K Ω	1
R149	ERDS2TJ473	47K Ω	1
R150	ERDS2TJ184	180K Ω	1
R151	ERDS2TJ473	47K Ω	1
R152	ERDS2TJ334	330K Ω	1
R153	ERDS2TJ222	2.2K Ω	1
R154, 155	ERDS2TJ102	1K Ω	2
R160, 161	ERDS2TJ104	100K Ω	2
R162, 163	ERDS2TJ332	3.3K Ω	2
R164	ERDS2TJ102	1K Ω	1
R165, 166	ERDS2TJ222	2.2K Ω	2
R167	ERDS2TJ102	1K Ω	1
R168	$\triangle$ ERD2FCJ4R7	4.7 Ω , 1/4W, Fuse Type	1
R172	ERDS2TJ103	10K Ω	1
R173	$\triangle$ ERD2FCJ4R7	4.7 Ω , 1/4W, Fuse Type	1
R174	ERDS2TJ223	22K Ω	1
R175	ERDS2TJ103	10K Ω	1
R176	ERDS2TJ223	22K Ω	1
R177	ERDS2TJ103	10K Ω	1
R183	ERDS2TJ224	220K Ω	1
R184	ERDS2TJ220	22 Ω	1
R185	ERDS2TJ684	680K Ω	1
R186	ERDS2TJ334	330K Ω	1
R187	ERDS2TJ220	22 Ω	1
R188	ERDS2TJ684	680K Ω	1
R189	ERDS2TJ334	330K Ω	1
R190	ERDS2TJ224	220K Ω	1
R194	ERDS2TJ683	68K Ω	1

CAPACITORS			
C1, 2	ECKR1E473ZV	0.047 μ F	2
C3	ECEA0JKA470	47 μ F, 6.3V	1
C4	ECKR1E473ZV	0.047 μ F	1
C7	ECEA0JKA470	47 μ F, 6.3V	1
C8	ECSF1EE225	2.2 μ F, 25V	1
C9	ECKR1E473ZV	0.047 μ F	1
C11	ECEA1HKA010	1 μ F, 50V	1
C12, 13	ECKR1E473ZV	0.047 μ F	2
C14	ECRR1H104ZF	0.1 μ F	1
C15	AC2061G473Z5	5.5V 0.047F	1
C16	ECEA0JKA470	47 μ F, 6.3V	1
C18, 19	ECKR1E473ZV	0.047 μ F	2
C20, 21	ECEA0JKA470	47 μ F, 6.3V	2
C22	ECKR1E473ZV	0.047 μ F	1
C25, 26	ECCR1H220J	22pF	2
C27, 28	ECEA1CKA100	10 μ F, 16V	2
C30	ECEA1CKN100	10 μ F, 16V	1
C32, 33	ECEA1CKA100	10 μ F, 16V	2
C34, 35	ECKR1E473ZV	0.047 μ F	2
C36~43	ECQG1H222KZ	0.0022 μ F	8
C44, 45	ECCR1H680J	68pF	2
C47, 48	ECQG1H102KZ	0.001 μ F	2
C49	ECQG1H222KZ	0.0022 μ F	1
C50	ECCR1H681J	680pF	1
C51	ECCR1H471J	470pF	1
C52	ECCR1H101J	100pF	1
C53	ECEA1HKN010	1 μ F, 50V	1
C54, 55	ECQG1H102KZ	0.001 μ F	2
C57	ECQG1H222KZ	0.0022 μ F	1

HP HEADPHONES CIRCUIT

Ref. No.	Part No.	Description	Per/Set
C58	ECCR1H681J	680pF	1
C59	ECCR1H471J	470pF	1
C60	ECCR1H101J	100pF	1
C61	ECEA1HKN010	1μF, 50V	1
C63~66	ECKR1E473ZV	0.047μF	4
C67	ECEA1HKA010	1μF, 50V	1
C68	ECCR1H220J	22pF	1
C69	ECCR1H681J	680pF	1
C70	ECQG1H102KZ	0.001μF	1
C71	ECCR1H331J	330pF	1
C73	ECCR1H220J	22pF	1
C74	ECQG1H332KZ	0.0033μF	1
C75	ECCR1H681J	680pF	1
C76	ECQG1H102KZ	0.001μF	1
C77	ECCR1H331J	330pF	1
C79~82	ECKR1E473ZV	0.047μF	4
C83~85	ECCR1H220J	22pF	3
C86, 87	ECEA1CKA470	47μF, 16V	2
C88	ECEA1CKA100	10μF, 16V	1
C89, 90	ECQG1H472KZ	0.0047μF	2
C91	ECRR1H104ZF	0.1μF	1
C92	ECQG1H102KZ	0.001μF	1
C93	ECKR1E473ZV	0.047μF	1
C94	ECEA0JKA470	47μF, 6.3V	1
C95	ECEA1HKA010	1μF, 50V	1
C96	ECQG1H332KZ	0.0033μF	1
C97, 98	ECCR1H100J	10pF	2
C99	ECCR1H220J	22pF	1
C100	ECKR1E473ZV	0.047μF	1
C102	ECEA1HKN010	1μF, 50V	1
C103	ECQM1H103KV	0.01μF	1
C104	ECQM1H223KV	0.022μF	1
C105	ECQM1H103KV	0.01μF	1
C106	ECQM1H223KV	0.022μF	1
C107, 108	ECKR1E473ZV	0.047μF	2
C109	ECEA1HKN010	1μF, 50V	1
C111	ECEA1CKA101	100μF, 16V	1
C112, 113	ECEA1HKA010	1μF, 50V	2
C114, 115	ECEA1CKA100	10μF, 16V	2
C116	ECEA1CKA101	100μF, 16V	1
C117	ECKR1E473ZV	0.047μF	1
C118	ECEA1EKA4R7	4.7μF, 25V	1
C119	ECKR1E473ZV	0.047μF	1
C120	ECQG1H332KZ	0.0033μF	1
C121, 122	ECKR1E473ZV	0.047μF	2
C123	ECEA0JKA102	1000μF, 6.3V	1
C124	ECEA1CKA100	10μF, 16V	1
C125	ECEA1HKA010	1μF, 50V	1
C129, 130	ECKR1E473ZV	0.047μF	2
C131	ECKR1E473ZV	0.047μF	1
C132~136	ECKR1E473ZV	0.047μF	5
C138, 139	ECKR1E473ZV	0.047μF	2
C140, 141	ECQG1H102KZ	0.001μF	2
C200	ECRR1H104ZF	0.1μF	1
C201, 202	ECCR1H101J	100pF	2
C203	ECSF1EE225	2.2μF, 25V	1
C204	ECRR1H104ZF	0.1μF	1
C206	ECCR1H471J	470pF	1
C207	ECRR1H104ZF	0.1μF	1
C208	ECCR1H331J	330pF	1
C209	ECRR1H104ZF	0.1μF	1
C210, 211	ECCR1H331J	330pF	2
C212	ECRR1H104ZF	0.1μF	1
C213	ECCR1H331J	330pF	1
C214~216	ECRR1H104ZF	0.1μF	3

Ref. No.	Part No.	Description	Per/Set
COIL			
L1	SLQG15W34DPQ	Coil	1
JACK			
JK1	SJJG100A	Headphones	1
RESISTORS			
R1, 2	ERG1ANJP680S	68Ω, 1W, Flame-Proof	2
CAPACITORS			
C1, 2	ECCR1H331J	330pF	2
C3	ECRR1H104ZF	0.1μF	1

MKB1 MANUAL KEYBOARD 1 CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	MN50020PGV	Gate Array	1
IC2	MN1231	1k bit Programmable ROM	1
DIODES			
S D1~88	MA162A	MA150IR (SUB. Part)	88
OSCILLATOR			
X1	EF0FC4004A3	4MHz, Ceramic Oscillator	1
RESISTORS			
R1	ERDS2TJ101	100Ω	1
R2	ERDS2TJ103	10KΩ	1
R3	ERDS2TJ222	2.2KΩ	1
R4	ERDS2TJ472	4.7KΩ	1
CAPACITORS			
C1	ECCR1H681J	680pF	1
C2	ECRR1H104ZF	0.1μF	1
C3	ECCR1H681J	680pF	1
C4	ECEA0JKA470	47μF, 6.3V	1
C5	ECRR1H104ZF	0.1μF	1

MKB2 MANUAL KEYBOARD 2 CIRCUIT

Ref. No.	Part No.	Description	Per/Set
DIODES			
S D89~176	MA162A	MA150IR (SUB. Part)	88
COMPONENT COMBINATION			
Z1	EXBPI8472JM	4.7KΩ × 8	1

DRV DIGITAL REVERB CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	MN128OR	Reset IC	1
IC2	SVIGHM65256	256K bit Pseudo Static RAM	1
IC3	SVIGMB622416	Gate Array	1
IC4	MN8305S	A-D/D-A Converter	1
IC5	SVIG87064075	Digital Signal Processor	1
IC6	SVIGM5278L05	+5V Voltage Regulator	1
IC7	SVIGM5220L	Operational Amplifier	1
IC8~10	SVIGM5218L	Operational Amplifier	3
IC11	SVIGLM1894N	Dynamic Noise Reduction	1
IC12	MN74HC02S	Quad 2-Input NOR Gates	1
TRANSISTORS			
Q1, 2	2SJ105GR	FET	2
DIODES			
D1~5	MA165TA5		5
D6	EK04		1
OSCILLATOR			
X1	SVQGA20MX040	20MHz, Ceramic Oscillator	1
COMPONENT COMBINATION			
ZC1	EXFP8101MW	100pF × 8	1
COIL			
L1	SLQG15W34DPQ	Coil	1
SEMI-FIXED RESISTOR			
VR1	EVND4AA00B14	10KΩ B, DRV bias	1
RESISTORS			
R1	ERDS2TJ333	33KΩ	1
R2	ERDS2TJ682	6.8KΩ	1
R3, 4	ERDS2TJ473	47KΩ	2
R5	ERDS2TJ393	39KΩ	1
R6, 7	ERDS2TJ103	10KΩ	2
R8	ERDS2TJ473	47KΩ	1
R9	ERDS2TJ152	1.5KΩ	1
R10	ERDS2TJ563	56KΩ	1
R11	ERDS2TJ183	18KΩ	1
R12, 13	ERDS2TJ823	82KΩ	2
R14	ERDS2TJ153	15KΩ	1
R15	ERDS2TJ103	10KΩ	1
R16	ERDS2TJ472	4.7KΩ	1
R17	ERDS2TJ153	15KΩ	1
R18	ERDS2TJ103	10KΩ	1
R19	ERDS2TJ472	4.7KΩ	1
R20	ERDS2TJ682	6.8KΩ	1
R21~23	ERDS2TJ473	47KΩ	3
R24	ERDS2TJ682	6.8KΩ	1
R25~27	ERDS2TJ473	47KΩ	3
R36, 37	ERDS2TJ331	330Ω	2
R38	ERDS2TJ102	1KΩ	1
R39	ERDS2TJ221	220Ω	1
R40, 41	ERDS2TJ473	47KΩ	2
R44, 45	ERDS2TJ472	4.7KΩ	2
R46, 47	ERDS2TJ221	220Ω	2
R50~52	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	3
R53, 54	ERD2FCG100	10Ω, 1/4W, Fuse Type	2
R55	ERDS2TJ105	1MΩ	1
R58, 59	ERDS2TJ101	100Ω	2
R62~66	ERDS2TJ152	1.5KΩ	5

Ref. No.	Part No.	Description	Per/Set
R68~70	ERDS2TJ472	4.7KΩ	3
R71	ERDS2TJ225	2.2MΩ	1
R72	ERDS2TJ332	3.3KΩ	1
R73, 74	ERDS2TJ225	2.2MΩ	2
R75	ERDS2TJ682	6.8KΩ	1
R76	ERDS2TJ332	3.3KΩ	1
CAPACITORS			
C1	ECQB1H153JZ	0.015μF	1
C2	ECQG1H682KZ	0.0068μF	1
C3, 4	ECCR1H471J	470pF	2
C5	ECCR1H101J	100pF	1
C6	ECEA1HKA010	1μF, 50V	1
C8	ECEA1HKA010	1μF, 50V	1
C9	ECQG1H152KZ	0.0015μF	1
C10	ECCR1H151J	150pF	1
C11	ECEA1HKA010	1μF, 50V	1
C12, 13	ECQG1H472KZ	0.0047μF	2
C14, 15	ECCR1H471J	470pF	2
C16	ECCR1H101J	100pF	1
C17	ECEA1HKA010	1μF, 50V	1
C18, 19	ECQG1H472KZ	0.0047μF	2
C20, 21	ECCR1H471J	470pF	2
C22	ECCR1H101J	100pF	1
C31, 32	ECEA1HKA010	1μF, 50V	2
C33	ECEA1HKA010	0.22μF, 50V	1
C34	ECQB1H103JZ	0.01μF	1
C35	ECEA1HKA010	0.22μF, 50V	1
C36	ECQB1H103JZ	0.01μF	1
C37	ECQV1H473JZ	0.047μF	1
C38	ECQV1H104JZ	0.1μF	1
C39	ECQB1H103JZ	0.01μF	1
C40	ECQG1H332KZ	0.0033μF	1
C41	ECEA1CKA470	47μF, 16V	1
C42	ECEA1CKA100	10μF, 16V	1
C43	ECEA1CKA470	47μF, 16V	1
C50~52	ECEA0JKA101	100μF, 6.3V	3
C53	ECEA0JU102	1000μF, 6.3V	1
C54	ECEA0JU331	330μF, 6.3V	1
C55, 56	ECEA1CKA101	100μF, 16V	2
C57	ECCR1H101J	100pF	1
C58, 59	ECCR1H100J	10pF	2
C60	ECKR1E473ZV	0.047μF	1
C62, 63	ECKR1E473ZV	0.047μF	2
C65, 66	ECCR1H470J	47pF	2
C67	ECRR1H104ZF	0.1μF	1
C68	ECEA1HKN010	1μF, 50V	1
C69	ECEA1HKA010	1μF, 50V	1
C70, 71	ECCR1H101J	100pF	2
C72	ECKR1E473ZV	0.047μF	1
C73	ECRR1H104ZF	0.1μF	1
C100	ECRR1H104ZF	0.1μF	1

CP CONTROL PANEL CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1, 5	SVIGM74LS138	Decoder	2
IC2~4, 6~8	SVIGM74LS174	Hex D-type Flip-Flops	6
TRANSISTOR			
Q1	2SA830SB		1

Ref. No.	Part No.	Description	Per/Set
DIODES			
D1~24, 26~34	LN282R	LED (Red)	33
D25 D35~57	LN382G MA165TA5	LED (Green)	1 23
SWITCHES			
S1~20	SSHG1046A	Push Switch	20
VARIABLE RESISTOR			
VR1	EW006910B53G	5KΩ B, Main Volume	1
RESISTORS			
R1~18 R25 R26, 27	ERDS2TJ331 ERDS2TJ103 ERDS2TJ223	330Ω 10KΩ 22KΩ	18 1 2
CAPACITORS			
C1 C2 C5 C6 C7 C9	ECEA0JKA470 ECRR1H104ZF ECRR1H104ZF ECEA0JKA470 ECRR1H104ZF ECRR1H104ZF	47μF, 6.3V 0.1μF 0.1μF 47μF, 6.3V 0.1μF 0.1μF	1 1 1 1 1 1

AS AMP & POWER SUPPLY CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1 IC2 IC3 IC4	SVIGS4172M2M SVIGM5291P SVIGM5F7815 SVIGM5F7915	Power Amplifier Switching Regulator +15V Voltage Regulator -15V Voltage Regulator	1 1 1 1
TRANSISTORS			
S Q1, 2 Q3	2SC2320LFG 2SB953AQP	2SC1310FG (SUB. Part)	2 1
DIODES			
S D1, 2 D3~10 D11 D12 D13	SVDSGERA1502Y SVDSGS3V20-15 SVDSGRK14S MA2062LF MA165TA5	Rectifier Rectifier Diode Zener, 6.2V	2 8 1 1 1
COILS & LINE FILTERS			
L1 L2	SLTGLF3 SLCGR8121D	Line Filter Coil	1 1
JACKS			
JK1 JK1	SJSD16 SJS9236	AC IN AC IN, other areas	1 1
SWITCH			
S1	SSRG100A	Voltage Selector, except for [M][MC][XM]	1 0

Ref. No.	Part No.	Description	Per/Set
FUSES			
F1 F2 F1 F2, 3	XBA1C63NU100 XBA2C20TB0 XBA2C40TB0 XBA2C20TB0	6.3A, 125V T2A, 250V T4A, 250V T2A, 250V	1 1 1 2
RESISTORS			
R1~3 R4 R5 R6, 7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17, 18 R19 R20 R21 R22, 23 R24 R25, 26 R27 R28 R29, 30 R31 R32~34 R35 R36 R37 R39 R41	ERDS2TJ103 ERDS2TJ472 ERDS2TJ221 ERDS2TJ223 ERDS2TJ473 ERDS2TJ472 ERQ14AJ2R0P ERX1ANJPR47S ERDS2TJ470 ERG1ANJP221S ERDS2TJ332 ERDS2TJ102 ERD2FCG101 ERDS2TJ153 ERDS2TJ681 ERDS2TJ473 ERDS2TJ222 ERDS2TJ152 ERD25FVJ4R7 ERDS2TJ153 ERDS2TJ681 ERDS2TJ473 ERDS2TJ152 ERDS2TJ222 ERDS2TJ102 ERDS2TJ104 ERD25FVJ4R7 ERDS2TJ473 ERDS2TJ473 ERDS2TJ221	10KΩ 4.7KΩ 220Ω 22KΩ 47KΩ 4.7KΩ 2Ω, 1/4W, Fuse Type 0.47Ω, 1W, Flame-Proof 47Ω 220Ω, 1W, Flame-Proof 3.3KΩ 1KΩ 100Ω, 1/4W, Fuse Type 15KΩ 680Ω 47KΩ 2.2KΩ 1.5KΩ 4.7Ω, 1/4W, Flame-Proof 15KΩ 680Ω 47KΩ 1.5KΩ 2.2KΩ 1KΩ 100KΩ 4.7Ω, 1/4W, Flame-Proof 47KΩ 47KΩ 220Ω	3 1 1 2 1 1 1 1 1 1 1 1 1 2 1 1 1 2 1 1 2 1 1 3 1 1 1 1 1
CAPACITORS			
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25	ECKCVA1472MF ECQU2A104MN ECEA1VU222 ECEA1VU332 ECEA1VU222 ECEA1VU332 ECEA0JKA470 ECEA1HKA010 ECEA1VKG100 ECCR1H471J ECEA0JU102 ECKR1E473ZV ECQV1H474JZ ECCR1H101J ECEA1EKA4R7 ECEA1EKA470 ECRR1H104ZF ECQV1H474JZ ECCR1H101J ECEA1EKA4R7 ECEA1EKA470 ECEA1VKG100 ECRR1H104ZF ECEA50Y22K ECEA50Y3R3	4700pF, Line-Capacitor 0.1μF, 250V, Across-the Line Capacitor 2200μF, 35V 3300μF, 35V 2200μF, 35V 3300μF, 35V 47μF, 6.3V 1μF, 50V 10μF, 35V 470pF 1000μF, 6.3V 0.047μF 0.47μF 100pF 4.7μF, 25V 47μF, 25V 0.1μF 0.47μF 100pF 4.7μF, 25V 47μF, 25V 10μF, 35V 0.1μF 22μF, 50V 3.3μF, 50V	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Ref. No.	Part No.	Description	Per/Set
C26 C27 C28 C30, 31 C32, 33	ECEA50Y22K ECEA50Y3R3 ECEA1HKA330 ECEA1VKG100 ECQM1H333KV	22μF, 50V 3.3μF, 50V 33μF, 50V 10μF, 35V 0.033μF	1 1 1 2 2

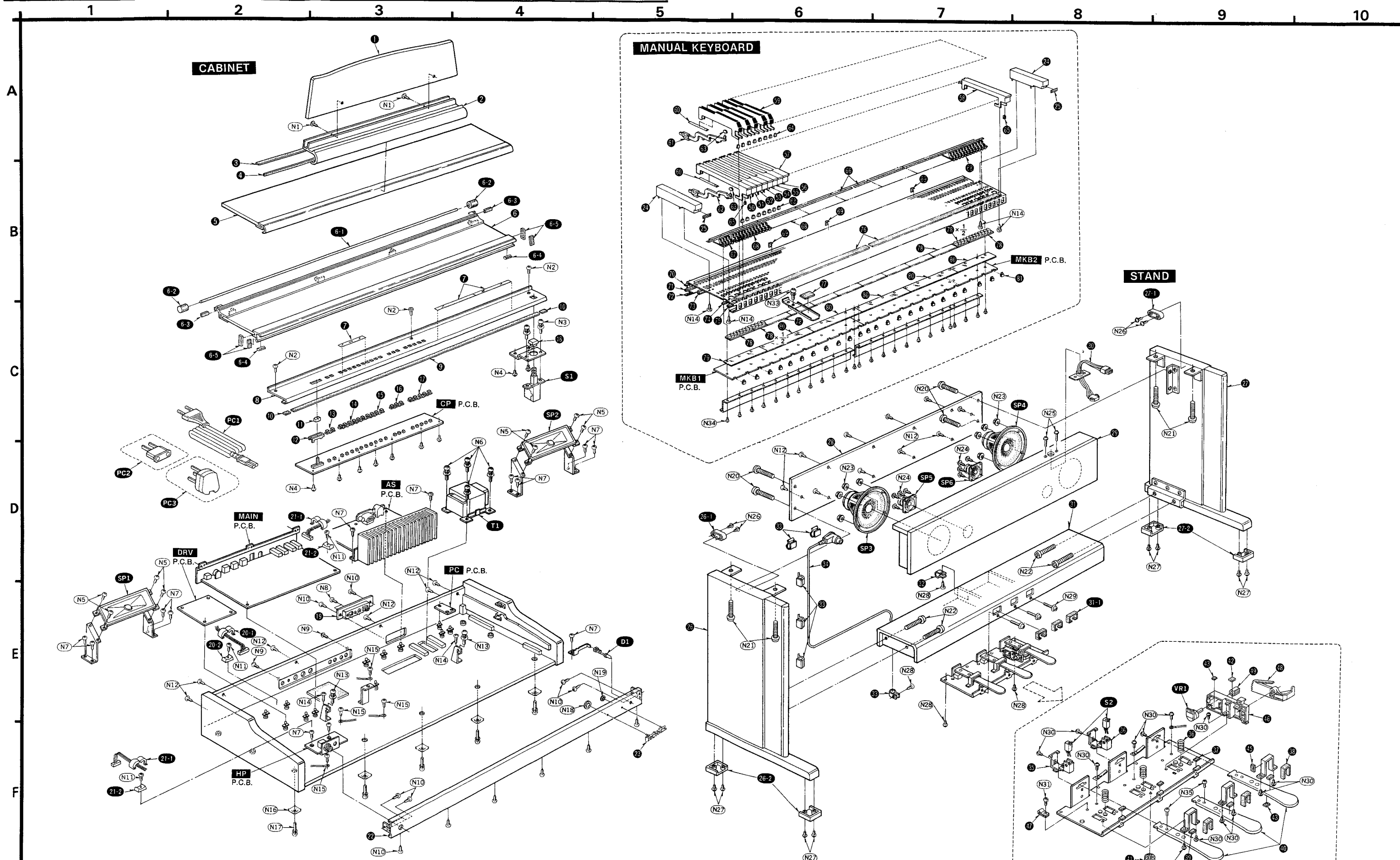
PC PEAK CANCELLER

Ref. No.	Part No.	Description	Per/Set
COIL			
L1	SLCSC681KU	680μH	1
RESISTOR			
R1	ERF5ZXJ150	15Ω, 5W, Flame-Proof	1
CAPACITOR			
C1	ECEA50Y12K	12μF, 50V	1

WIRING PARTS

Ref. No.	Part No.	Description	Per/Set
W1 W2 W3 W4 W5 W6 W7 W8 W9 W10 W11 W12 W13	QEXG05014SSB QEXG14012SSA QEXG03016ZA QEXG08009SSA QEXG07002SSB QEXG13008SSB SWKG1515SSA QEXG04032SSA QEXG03020LTB SWKG0251ZA QEXG09006ZB QEXG06006ZA QEXG06007ZA	Connector with Wire Connector with Wire Connector with Wire Connector with Wire Connector with Wire Connector with Wire Connector with Wire Connector with Wire Connector with Wire Connector with Wire Connector with Wire Connector with Wire	1 1 1 1 1 1 1 1 1 1 1 1 1

EXPLODED VIEWS OF CABINET



REPLACEMENT PARTS LIST.....Cabinet and Chassis Parts

Notes:

- Important safety notice
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- $\bigcirc$ mark are new parts.

- For part No. with area mark, check the area when placing an order.

- Cabinet color

- SX-PX66 Black
- SX-PX66M Walnut

SX-PX66 CABINET & CHASSIS PARTS

Ref. No.	Part No.	Description	Per/Set
SWITCHES			
$\bigcirc$ S1 Δ	SSHG1050A	Power Switch	1
S2	SRDSMLS-2	Pedal Switch	3
SPEAKERS			
SP1, 2	EAS15S09A	13cm $\times$ 6.5cm, 8 Ω	2
SP3, 4	SASG16PL03-F	16cm, 8 Ω	2
SP5, 6	EAS65PH31A	6.5cm, 8 Ω	2
TRANSFORMER			
T1 Δ Δ M MC XM	SLTG5M31	Power Transformer	1
T1 Δ	SLTG5M30	Power Transformer, Other areas	1
POWER CORD & PLUG			
PC1 Δ XL XR Δ	SJAG61	AC Power Cord	1
PC1 Δ	SJAG62	AC Power Cord	1
Δ M MC XM			
PC1 Δ	SJAG39	AC Power Cord	1
Δ EK XS XD			
PC1 Δ	SJAG65	AC Power Cord, Other areas	1
PC2 Δ X	SJP5213-1	Attachment Plug, [X]only	1
PC3 Δ XD	SJPG1350A	Power Plug, [XD]only	1
DIODE			
D1	LN29RP	Power Indicator (LED)	1
VARIABLE RESISTOR			
VR1	QRVG16A01B53	5K Ω B, Sustain Pedal	1
CABINET PARTS			
$\bigcirc$ 1	QGAG1007AA	Panel	1
$\bigcirc$ 2	QGKG0016FA	Ornament	1
$\bigcirc$ 3	QMFG1025BA	Felt	1
$\bigcirc$ 4	QMFG4026AA	Felt	1
$\bigcirc$ 5	QKQGA021AA	Top Cover	1
$\bigcirc$ 6	QKQGF002AA	Sliding Cover Ass'y	1
$\bigcirc$ 6-1	QMGG0001CA	Spindle	1
$\bigcirc$ 6-2	QMGG005AA	Roller	2
$\bigcirc$ 6-3	QMFG1029AA	Felt	2
$\bigcirc$ 6-4	SHGG1052A	Cushion	2
$\bigcirc$ 6-5	SHSG4570A	Felt	1
$\bigcirc$ 7	QQLG018AA	MIDI Seal	1
$\bigcirc$ 8	QGPG0012AA	Control Panel	1
$\bigcirc$ 9	QMFG1035AA	Felt (Red)	1
$\bigcirc$ 10	QMFG4019AA	Felt	1
$\bigcirc$ 11	SBNG7050A	Knob	1
$\bigcirc$ 12	SGEG260A	Ornament	1
$\bigcirc$ 13	QGUG1031AA	Button (Transpose)	1
$\bigcirc$ 14	QGUG1033AA	Button (Sound)	1
$\bigcirc$ 15	QGUG1039AA	Button (Sound)	1

SX-PX66M CABINET & CHASSIS PARTS

Ref. No.	Part No.	Description	Per/Set
SWITCHES			
$\bigcirc$ S1 Δ	SSHG1050A	Power Switch	1
S2	SRDSMLS-2	Pedal Switch	3
SPEAKERS			
SP1, 2	EAS15S09A	13cm $\times$ 6.5cm, 8 Ω	2
SP3, 4	SASG16PL03-F	16cm, 8 Ω	2
SP5, 6	EAS65PH31A	6.5cm, 8 Ω	2
TRANSFORMER			
T1 Δ Δ M MC XM	SLTG5M31	Power Transformer	1
T1 Δ	SLTG5M30	Power Transformer, Other areas	1
POWER CORD & PLUG			
PC1 Δ XL XR Δ	SJAG61	AC Power Cord	1
PC1 Δ	SJAG62	AC Power Cord	1
Δ M MC XM			
PC1 Δ	SJAG39	AC Power Cord	1
Δ EK XS XD			
PC1 Δ	SJAG65	AC Power Cord, Other areas	1
PC2 Δ X	SJP5213-1	Attachment Plug, [X] only	1
PC3 Δ XD	SJPG1350A	Power Plug, [XD] only	1
DIODE			
D1	LN29RP	Power Indicator (LED)	1
VARIABLE RESISTOR			
VR1	QRVG16A01B53	5K Ω B, Sustain Pedal	1
CABINET PARTS			
$\bigcirc$ 1	QGAG1007AB	Panel	1
$\bigcirc$ 2	QGKG0016FB	Ornament	1
$\bigcirc$ 3	QMFG4026AA	Felt	2
$\bigcirc$ 4	QMFG1025BA	Felt	0
$\bigcirc$ 5	QKQGA021AB	Top Cover	1
$\bigcirc$ 6	QKQGF002AB	Sliding Cover Ass'y	1
$\bigcirc$ 6-1	QMGG0001CA	Spindle	1
$\bigcirc$ 6-2	QMGG005AA	Roller	2
$\bigcirc$ 6-3	QMFG1029AA	Felt	2
$\bigcirc$ 6-4	SHGG1052A	Cushion	2
$\bigcirc$ 6-5	SHSG4570A	Felt	1
$\bigcirc$ 7	QQLG018AA	MIDI Seal	1
$\bigcirc$ 8	QGPG0012AA	Control Panel	1
$\bigcirc$ 9	QMFG1035AA	Felt (Red)	1
$\bigcirc$ 10	QMFG4019AA	Felt	1
$\bigcirc$ 11	SBNG7050A	Knob	1
$\bigcirc$ 12	SGEG260A	Ornament	1
$\bigcirc$ 13	QGUG1031AA	Button (Transpose)	1
$\bigcirc$ 14	QGUG1033AA	Button (Sound)	1
$\bigcirc$ 15	QGUG1039AA	Button (Sound)	1

Ref. No.	Part No.	Description	Per/Set	Ref. No.	Part No.	Description	Per/Set
○ 16	QGUG1037AA	Button (Brilliance etc.)	1	○ 16	QGUG1037AA	Button (Brilliance etc.)	1
○ 17	QGUG1038AA	Button (Digital Reverb etc.)	1	○ 17	QGUG1038AA	Button (Digital Reverb etc.)	1
○ 18	QGUG1040AA	Button (Power Switch)	1	○ 18	QGUG1040AA	Button (Power Switch)	1
○ 19	 QGKG0019DA	Jack Panel, [M][MC][XM][EH], only	1	○ 19	 QGKG0019DB	Jack Panel, [M][MC][XM][EH], only	1
○ 19	QGKG0019CA	Jack Panel, other areas	1	○ 19	QGKG0019CB	Jack Panel, Other areas	1
20-1	[QLZG001A	Core } all areas	1	20-1	[QLZG001A	Core } all areas	1
20-2	[SHRG1270A	Mounting Base } all areas	1	20-2	[SHRG1270A	Mounting Base } all areas	1
21-1	 [QLZG001A	Core } [EZ][M][MC]	2	21-1	 [QLZG001A	Core } [EZ][M][MC]	2
21-2	 [SHRG1270A	Mounting Base } [XL][XM], only	2	21-2	 [SHRG1270A	Mounting Base } [XL][XM], only	2
○ 22	QKSGE005EA	Ornament	1	○ 22	QKSGE005EB	Ornament	1
○ 23	SGBG160B	Technics Badge	1	○ 23	SGBG160B	Technics Badge	1
24	SGWG2210B	End Cover Panel	2	24	SGWG2210B	End Cover Panel	2
25	SHSG3690A	Felt	2	25	SHSG3690A	Felt	2
STAND				STAND			
○ 26	QKQGB091AA	Left Plank Ass'y	1	○ 26	QKQGB091AB	Left Plank Ass'y	1
26-1	[SHRG2130B	Speaker Box Stopper	2	26-1	[SHRG2130B	Speaker Box Stopper	2
26-2	[SHRG2220A	Foot	1	26-2	[SHRG2220B	Foot	1
○ 27	QKQGB092AA	Right Plank Ass'y	1	○ 27	QKQGB092AB	Right Plank Ass'y	1
27-1	[SHRG2130B	Speaker Box Stopper	2	27-1	[SHRG2130B	Speaker Box Stopper	2
27-2	[SHRG2220A	Foot	1	27-2	[SHRG2220B	Foot	1
○ 28	QKUG1007AA	Rear Board	1	○ 28	QKUG1007AB	Rear Board	1
○ 29	QKQGL007AA	Speaker Box Ass'y	1	○ 29	QKQGL007AB	Speaker Box Ass'y	1
○ 30	QEXG06006ZA	Connector with Wire	1	○ 30	QEXG06006ZA	Connector with Wire	1
○ 31	QKQGM006AA	Pedal Box Ass'y	1	○ 31	QKQGM006AB	Pedal Box Ass'y	1
○ 31-1	[QMFG1039AA	Felt (Red)	3	○ 31-1	[QMFG1039AA	Felt (Red)	3
32	SHRG1230A	Cord Clamper	2	32	SHRG1230A	Cord Clamper	2
33	SHRG9620A	Cord Clamper	5	33	SHRG9620A	Cord Clamper	5
○ 34	QJLG002AB	Pedal Cord	1	○ 34	QJLG002AB	Pedal Cord	1
○ 35	QMWG8005AB	Pedal Switch Case	3	○ 35	QMWG8005AB	Pedal Switch Case	3
○ 36	SUSG441A	Spring	3	○ 36	SUSG441A	Spring	3
37	SHSG2790A	Felt	3	37	SHSG2790A	Felt	3
38	SHSG2750A	Felt	3	38	SHSG2750A	Felt	3
39	SHSG2770A	Felt	3	39	SHSG2770A	Felt	3
○ 40	STBG3115A	Pedal Arm	3	○ 40	STBG3115A	Pedal Arm	3
41	SKLG160A	Foot	1	41	SKLG160A	Foot	1
42	SHSG3510A	Felt	1	42	SHSG3510A	Felt	1
43	SHSG5980A	Felt	1	43	SHSG5980A	Felt	1
44	QMFG1041A	Felt	1	44	QMFG1041A	Felt	1
45	SHSG3560A	Felt	1	45	SHSG3560A	Felt	1
46	STBG9330A	Housing	1	46	STBG9330A	Housing	1
47	SHRG1170A	Coad Clamper	1	47	SHRG1170A	Coad Clamper	1
48	STBG9350A	Lever	1	48	STBG9350A	Lever	1
49	STBG9340A	Gear	1	49	STBG9340A	Gear	1
MANUAL KEYBOARD				MANUAL KEYBOARD			
50	STBGA1050A	White Key (First Octave A Key)	1	50	STBGA1050A	White Key (First Octave A Key)	1
51	STBGA1060A	White Key (B Key)	8	51	STBGA1060A	White Key (B Key)	8
52	STBGA1070A	White Key (C Key)	7	52	STBGA1070A	White Key (C Key)	7
53	STBGA1080A	White Key (D Key)	7	53	STBGA1080A	White Key (D Key)	7
54	STBGA1090A	White Key (E Key)	7	54	STBGA1090A	White Key (E Key)	7
55	STBGA1100A	White Key (F Key)	7	55	STBGA1100A	White Key (F Key)	7
56	STBGA1110A	White Key (G Key)	7	56	STBGA1110A	White Key (G Key)	7
57	STBGA1120A	White Key (A Key)	7	57	STBGA1120A	White Key (A Key)	7
58	STBGA1130A	White Key (Top Octave C Key)	1	58	STBGA1130A	White Key (Top Octave C Key)	1
59	STBG2920A	Black Key	36	59	STBG2920A	Black Key	36
60	SUSG531A	Spring	88	60	SUSG531A	Spring	88
○ 61	QMWG9006AA	Hammer (Black Key)	36	○ 61	QMWG9006AA	Hammer (Black Key)	36
○ 62	QMWG9005AA	Hammer (White Key)	52	○ 62	QMWG9005AA	Hammer (White Key)	52
63	SHGG9121A	Rubber Cap (Hammer)	88	63	SHGG9121A	Rubber Cap (Hammer)	88
64	SHRG9900B	Key Guide Rubber	88	64	SHRG9900B	Key Guide Rubber	88
65	SHSG5910A	Felt	52	65	SHSG5910A	Felt	52
○ 66	QMFG4021AA	Felt	2	○ 66	QMFG4021AA	Felt	2

Ref. No.	Part No.	Description	Per/Set
67	QMWG8004AB	Fulcrum (4 pcs. on one)	1
68	QMWG8003AB	Fulcrum (12 pcs. on one)	7
69	QMFG1036AA	Felt	3
70	SHRGA9080A	Sponge	2
71	QMFG1046AA	Felt	2
72	SHSG3461A	Felt	1
73	QMFG1049AA	Felt	2
74	SHSG2670A	Felt	1
75	SHSG3552A	Felt	2
76	SHSG3451A	Felt	2
77	SHRG7301A	Sponge	1
78	QMWG6001AA	Actuator	11
79	QMWG6003AA	Membrane Sheet	2
80	QMWG6002AA	Membrane Sheet	4
81	SHRG9751A	P.C.B. Holder	24

SCREWS & WASHERS

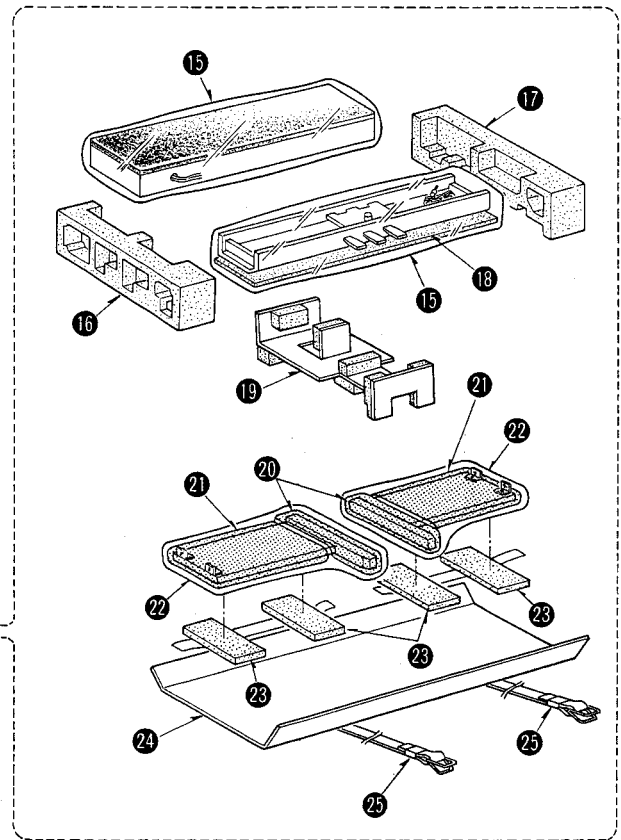
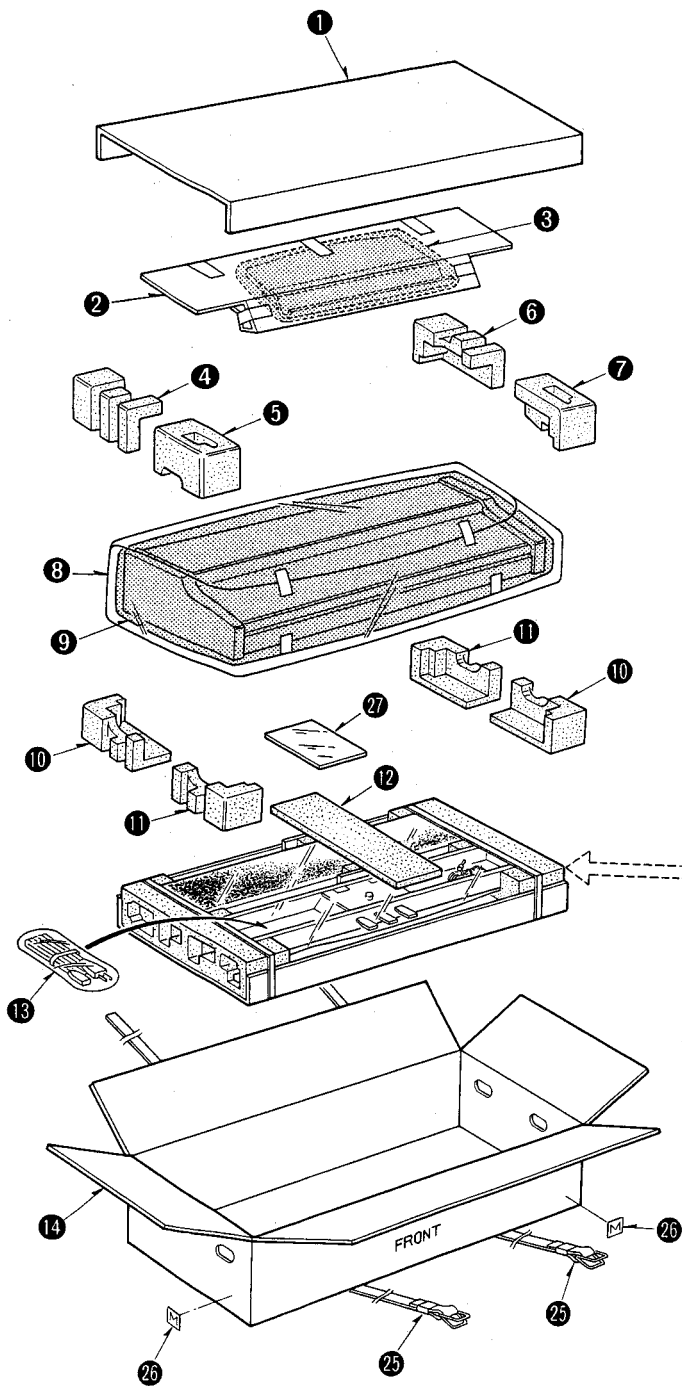
N1	XTT4+12AFZ	Screw	2
N2	SNEG1880A	Screw	3
N3	XYN3+F6FZ	Screw with Washer	2
N4	XTV3+8J	Screw	9
N5	XTV3+10B	Screw	8
N6	XYN4+F25FZ	Screw with Washer	4
N7	XTB35+12A	Screw	15
N8	XTB3+14GFZ	Screw	2
N9	QHDG004AA	Screw	2
N10	XTB35+12AFZ	Screw	8
N11	XTB3+10A	Screw	3
N12	XTT4+25AFZ	Screw	16
N13	XYN5+F16	Screw with Washer	2
N14	XTB4+12A	Screw	6
N15	SNEG2660A	Screw	4
N16	SNEG150B	Washer	5
N17	XYN5+C25FZ	Screw with Washer	5
N18	SNEG1780A	Retaining Ring	1
N19	SNEG1770A	Retaining Ring	1
N20	SNEG2280A	Bolt (Black)	4
N21	SNEG2330A	Bolt (Brown)	4
N22	SNEG1820B	Bolt	4
N23	SNE499-1	Nut	8
N24	XTT4+12A	Screw	8
N25	QHDG004AA	Screw	2
N26	XTB35+16AFZ	Screw	4
N27	XTV35+30A	Screw	8
N28	XTB35+14A	Screw	4
N29	XYN4+F16FZ	Screw with Washer	3
N30	XTW3+8C	Screw	13
N31	XTB3+6C	Screw	1
N32	XYN4+C25	Screw with Washer	1
N33	XYN5+C6FZ	Screw with Washer	1
N34	XTW3+10T	Screw	25
N35	XSN4+8	Screw	2

Ref. No.	Part No.	Description	Per/Set
67	QMWG8004AB	Fulcrum (4 pcs. on one)	1
68	QMWG8003AB	Fulcrum (12 pcs. on one)	7
69	QMFG1036AA	Felt	3
70	SHRGA9080A	Sponge	2
71	QMFG1046AA	Felt	2
72	SHSG3461A	Felt	1
73	QMFG1049AA	Felt	2
74	SHSG2670A	Felt	1
75	SHSG3552A	Felt	2
76	SHSG3451A	Felt	2
77	SHRG7301A	Sponge	1
78	QMWG6001AA	Actuator	11
79	QMWG6003AA	Membrane Sheet	2
80	QMWG6002AA	Membrane Sheet	4
81	SHRG9751A	P.C.B. Holder	24

SCREWS & WASHERS

N1	XTT4+12AFVC	Screw	2
N2	SNEG1880A	Screw	3
N3	XYN3+F6FZ	Screw with Washer	2
N4	XTV3+8J	Screw	9
N5	XTV3+10B	Screw	8
N6	XYN4+F25FZ	Screw with Washer	4
N7	XTB35+12A	Screw	15
N8	XTB3+14GFVC	Screw	2
N9	QHDG004AB	Screw	2
N10	XTB35+12AFVC	Screw	8
N11	XTB3+10A	Screw	3
N12	XTT4+25AFVC	Screw	16
N13	XYN5+F16	Screw with Washer	2
N14	XTB4+12A	Screw	6
N15	SNEG2660A	Screw	4
N16	SNEG150B	Washer	5
N17	XYN5+C25FZ	Screw with Washer	5
N18	SNEG1780A	Retaining Ring	1
N19	SNEG1770A	Retaining Ring	1
N20	SNEG2330A	Bolt (Brown)	4
N21	SNEG2330A	Bolt (Brown)	4
N22	SNEG1820B	Bolt	4
N23	SNE499-1	Nut	8
N24	XTT4+12A	Screw	8
N25	QHDG004AA	Screw	2
N26	XTB35+16AFZ	Screw	4
N27	XTV35+30A	Screw	8
N28	XTB35+14A	Screw	4
N29	XYN4+F16FZ	Screw with Washer	3
N31	XTW3+8C	Screw	13
N32	XTB3+6C	Screw	1
N33	XYN4+C25	Screw with Washer	1
N34	XYN5+C6FZ	Screw with Washer	1
N35	XTW3+10T	Screw	25
N36	XSN4+8	Screw	2

PACKING



■ PACKING PARTS

Ref. No.	Part No.	Description	Per/Set
○ 1	QPGG0053AA	Top Cardboard	1
○ 2	QPGG0046BA	Music Rack Cardboard	1
○ 3	SPHG1490A	Protection Sheet	1
○ 4	QPNG0088AA	Upper Pad (Left, Rear)	1
○ 5	QPNG0086AA	Upper Pad (Left, Front)	1
○ 6	QPNG0089AA	Upper Pad (Right, Rear)	1
○ 7	QPNG0087AA	Upper Pad (Right, Front)	1
○ 8	QPGG008AA	Polyethylene Bag	1
○ 9	SPHG2120A	Protection Sheet	1
○ 10	QPNG0094AA	Lower Pad (Left, Rear/Right, Front)	2
○ 11	QPNG0095AA	Lower Pad (Right, Rear/Left, Front)	2
○ 12	QPNG0084AA	Spacer	1
○ 13	SPHG810A	Polyethylene Bag	1
○ 14	QPGG0052AA	Carton	1
○ 15	SPHG1570A	Polyethylene Bag	2
○ 16	QPNG0082AA	Left Side Pad	1
○ 17	QPNG0081AA	Right Side Pad	1
○ 18	QPNG0085AA	Pad	1
○ 19	QPHG020AA	Spacer	1
○ 20	SPHG1730A	Protection Sheet	2
○ 21	SPHG1580A	Protection Sheet	2
○ 22	SPHG2050A	Polyethylene Bag	2
○ 23	QPNG0083AA	Spacer	4
○ 24	QPGG0052AA	Stand Cardboard	1
○ 25	SPSG40A	Band	4
○ 26	SX-PX66M QQLG020AA	Label, SX-PX66M only	5

INSTRUCTION BOOK

○ 27	M	QQFGPX55BA	[M] area only	1
○ 27	EN	QQFGPX33VAA	[EN] area	1
○ 27		QQFGPX33VCB	Other areas	1